

In This Issue...

COVER FOCUS

Windows 7

With Windows 7 on the horizon, chances are your enterprise is at least discussing an overall strategy and plan. We run down what you can expect from the new OS, along with expert advice for when and how to implement it.

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■ Aside from general cooling issues, it's not often that you stop to consider how the shape and size of your data center impacts **data center cooling**. Does your data center's size and shape matter?page 30

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Windows 7:
It's All About
The Features

What To Expect From Microsoft's Latest OS

by Chris A. MacKinnon

It's ALMOST TIME for enterprises to open their doors to the newest addition to the Windows family—or is it? When Windows Vista came on the scene, many enterprises were so entrenched with Windows XP, they hesitated, and Vista was not widely deployed. So what new features has Microsoft developed that speak directly to enterprise users? What is so appealing about the latest offering from the king of OSes? Here is a look at Microsoft's newest operating system.

Feature-Rich

Bob Kelly, senior product manager at KACE (www.kace.com), says there are a number of Windows 7 features that will appeal to enterprises and data centers. "For starters," Kelly says, "a new admin feature available to those that deploy Windows 7 in a Windows Server 2008 r2 environment is a feature called BranchCache, which enables content for file and Web servers on a WAN to be

cached at local branch offices (for a natural reduction in network traffic) and therefore offers an improved response time."

This cached data can either be distributed across peer client computers (in distributed cache mode) or centrally hosted on a server (in hosted cache mode). BITS (Background Intelligent Transfer Service) 4.0 was also updated to leverage BranchCache.



According to Kelly, Windows 7 will also provide a better experience for those in VDI (virtual desktop interface) mode. Such an experience has always meant reduced functionality and feature sets, but Windows 7 removes many of these limitations. "This includes support for Windows Aero, use of multiple monitors, [and] viewing of videos in Windows Media Player 11 and also includes some administration tools for manipulating these virtual images," he says.

Kelly says that startup and standby resume times have also been significantly enhanced in Windows 7, and the new Taskbar introduces many intuitive features, which are most noticeable when you first use it.

Benefits For Admins

Although the new Taskbar is definitely a nice step forward for Windows users, Kelly says Microsoft has also focused more on how Windows 7 makes life better for administrators. He says, "Despite User Account Control being a powerful and necessary security feature of Windows Vista, it has been more of an annoyance due to the

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Network
Traffic
Management:
The Big
Picture

Traffic Management,
Shaping & QoS Provide
The Tools To Guarantee
Performance

by Kurt Marko

THAT THE CAPACITY of enterprise networks has exploded over the last few years isn't breaking news, but what's underappreciated is the increasing diversity of traffic. Convergence is a mantra for many network managers—dedicated voice and data circuits are passé as every form of communication has been packetized for IP

Key Points

- Converged voice/data networks with diverse and latency-sensitive applications can require traffic management and QoS to guarantee acceptable performance.
- Effective traffic management requires accurately identifying and classifying applications and their network flows—a challenging prospect when many apps tunnel through the HTTP port.
- Traffic management can be achieved by queuing flows with fixed priorities, enforcing data rate limits (policing), or buffering and signaling applications (shaping).

transport—and although this strategy makes efficient use of available capacity and is a big money-saver, it exposes limitations of historically data-only networks.

By default, all IP traffic receives equal claim on available capacity, yet divergent network applications such as phone calls and file transfers respond quite differently to bandwidth constraints, delays, or retransmissions. Traditional IP networks behave like a crowded thoroughfare where ambulances and fire engines must wait their turn at a signalized intersection just like everyone else. According to Jim Frey, research director at Enterprise Management Associates (www.enterprisemanagement.com), the goal of traffic management is to provide more intelligent handling of network applications. In converged networks, with heterogeneous traffic, that requires a means of prioritizing and managing data flows using

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Microsoft To Hire 400 Yahoo! Workers

Microsoft has agreed to hire about 400 Yahoo! employees as part of a plan to share the revenue generated from Internet search advertising. Microsoft will also hire an additional 150 workers from Yahoo! to help with the transition. The plan puts Microsoft’s Bing search engine in control of the search results on Yahoo.com, while Yahoo! manages advertising sales and marketing. Microsoft will pay Yahoo! 88% of the revenue gathered from searches performed on Yahoo!’s sites. Microsoft will also pay Yahoo! \$150 million over a period of three years to help with transition costs. The deal is expected to be in place in the first half of next year.

Researcher Uncovers Clampi Malware

A Trojan by the name of Clampi has infected between 100,000 and 1 million Windows computers and is almost impossible to track or reverse engineer, according to Joe Stewart, the director of malware research for SecureWorks’ counter-threat unit. Clampi targets financial information by turning up on computers when users are tricked into opening an email file attachment or when they visit one of 4,500 targeted sites, including banking, credit card, shopping, and job hunting sites. Stewart believes that there is only one group behind the malware and that it’s likely based in Russia or eastern Europe.

Software Spending To Climb A Bit In 2010

A recent Gartner survey found that software budgets worldwide may be 1.53% larger next year. However, North American enterprises are still expected to budget slightly less than the rest of the world with a 2.06% overall decrease, despite 28% of companies polled predicting increases in spending. Funds that have been held back from infrastructure upgrades will likely be retargeted toward new applications intended to help companies compete, such as self-service Web sites and new Internet delivery channels, Gartner says. The April/May survey polled 1,000 IT pros around the world.

Delay In New Bus Spec

The PCI Special Interest Group has announced that it is delaying the release of the PCI-E 3.0 base specification from later this year to the second quarter of next year, and hardware that supports the spec should be available in 2011. The foundation of the spec is in place, but the group wants to take more time working out a few specification details, such as power constraints and backward-compatibility. The updated spec is expected to double the data transfer rates for PCI Express peripherals, such as graphics cards, while consuming less power than the PCI-E 2.0 spec. Other perks of the spec include smarter and faster data transfers and, of course, backward-compatibility.

Online Ad Revenue Slips

According to a recent report from industry analyst IDC, online ad spending is on the decline. The report finds that the worldwide advertising market dropped 5% in Q2 compared to Q2 2008. Last year, organizations spent \$14.7 billion on online search ads, display ads, and classified ads, whereas this year that number amounted to \$13.9 billion. Only Asia/Pacific and Japan showed increases in spending. Online ad spending in the United States dropped 7% to \$6.2 billion, down from \$6.6 billion in 2008. IDC predicts that the industry will continue to decline until the second half of 2010.

Ignoring Security Certificate Warnings

A recent study from Carnegie Mellon University shows that between 55% and 100% of study participants disregarded browser warnings about problems with Web sites’ security certificates. The online survey consists of more than 400 Web surfers as well as 100 people that Carnegie Mellon brought in to study how people use the Internet. In particular, the study notes that people felt they could safely ignore messages when they visited a Web site that they trust, but participants were more wary at less trustworthy sites. The study also indicates that Firefox users were the least likely to visit a Web site after seeing a warning because of the warning language used in Firefox 3.

Jump In Graphics Chip Sales

Analyst firm Jon Peddie Research indicates that graphics chips sales increased by 31.3% to 98.3 million units sold in the second quarter. AMD’s market share increased from 17.1% to 18.4%, and Nvidia dropped from 31.1% to 29.2%; Intel, which sells chipsets with integrated graphics cores, has the largest graphic chips share, showing an increase from 49.7% to 50.3%. Jon Peddie Research indicates that graphics chip sales don’t normally pick up until the third quarter, so the uptick in sales was a surprise. The report says that upcoming releases of Windows 7 and Mac OS X Snow Leopard will drive PC demand, so manufacturers are preparing for increased PC sales.



Cell Phone Shipments Down In Q2

According to data from IDC, mobile phone shipments were down 10.8% in the second quarter, and IDC expects the mobile market to decline about 13% for the whole year. Cell phone makers shipped 269.6 million units worldwide, though this decline wasn’t as bad as Q1. However, smartphones continued to sell well and see a high demand in Q2; according to Ryan Reith, senior research analyst for IDC, “Among the big handset vendors, Nokia, Samsung, Research In Motion, and Apple all beat expectations for smartphones within the second quarter.” Nokia leads the mobile market with 38.3%, followed by Samsung, LG, Motorola, and Sony Ericsson.

Microsoft Ditches IE-Free Version Of Win7

Microsoft says it will now ship the same version of Windows 7 in Europe as it does to the rest of the world. The change comes as Microsoft says the European Commission “welcomed” its proposal to instead offer users of the operating system in Europe a ballot screen that will let them select the Web browser they want to use. Earlier, Microsoft announced that, in its effort to meet the Oct. 22 worldwide availability date for Win7, it would create a version of the OS dubbed Windows 7E without a Web browser for sale in Europe. In a blog post, Microsoft Vice President and Deputy General Counsel Dave Heiner says concerns from consumers, computer manufacturers, and partners led to the decision to offer the ballot screen version.

Solution Provider Acquires Cemaphore

Sparxent, which provides consulting, software, and services to midsized companies, has added email synchronization abilities with its acquisition of Cemaphore Systems. Dave R. Taylor, co-founder of Sparxent, says Cemaphore’s real-time email synchronization products, through both onsite products and via the cloud, will help Sparxent “deliver a portfolio of

business-critical services to midmarket companies in a way that best meets their individual needs.” Sparxent has acquired four companies in the past year; financial details of the Cemaphore purchase were not disclosed.

Ericsson Absorbs Nortel Wireless For \$1.13 Billion

Swedish telecommunications company Ericsson won the auction for Nortel Networks’ wireless assets, paying a total of \$1.13 billion. Nokia Siemens proposed an offer of \$650 million in June, which led to offers from other telecom enterprises. Ericsson outbid others to win Nortel’s CDMA and next-generation LTE wireless technologies. The agreement includes job offers for at least 2,500 Nortel workers at Ericsson. Additionally, the acquisition includes CDMA contracts with Bell Canada, Leap, Sprint, U.S. Cellular, and Verizon. Once a major player in the communications market, Nortel now plans to sell off every portion of its business rather than consolidating.

Courts OKs Bid For Nortel’s Enterprise Solutions Business

Nortel has received permission from U.S. and Canadian bankruptcy courts to sell its Enterprise Solutions unit and Government Solutions shares to Avaya based on a “stalking horse” bid of \$475 million. The bid essentially sets the floor at \$475 million for Nortel to auction its enterprise business; other interested parties, including a joint venture between Siemens AG and private equity firm Gores Group called Enterprise Networks Holdings, must make bids prior to Sept. 4. In January, Nortel filed for Chapter 11 bankruptcy protection in Canada and the United States. Already, Ericsson has acquired Nortel’s CDMA and LTE businesses based on a \$1.13 billion bid that topped a \$650 million stalking horse bid from Nokia; however, RIM has argued that some of Nortel’s wireless technology should remain in Canada, which prompted an emergency meeting reportedly set for early this month with a Canadian House of Commons committee, which will review if RIM was shut out of the original bankruptcy proceedings.

Programmers Guild Dealt Setback

A legal effort by the Programmers Guild of professional technical workers was dealt a setback late last month by a U.S. Court of Appeals in Philadelphia. The guild has been working to fight an extension the Bush administration approved in 2008, which extended the time foreign students could work on student visas from one year to 29 months; however, the appeals court upheld a previous ruling from a U.S. District Court that ruled the guild didn’t have legal standing to argue the case. At the time Bush extended the visa, there was a high demand for H-1B visas, but following the economic recession, demand for foreign workers fell off considerably. Reportedly, 20,000 of the 85,000 available H-1B visas for this year are still available. The Programmers Guild is arguing that the visa extension has resulted in more competition for jobs and lowered wages for U.S. workers. The guild plans to ask the court to reconsider the decision and may possibly seek an appeal with the U.S. Supreme Court.

Vista Makes Gains

Just months before the expected release of Microsoft’s new Windows 7 operating system, the latest OS information from Forrester Research shows that Windows Vista is now installed on about 12% of corporate desktops, up more than 4% during the past year. Mac OS X also made gains, mostly at WinXP’s expense, according to Forrester, and is now on 3.6% of corporate desktops. With the anticipated releases of Windows 7 and Apple’s next OS, Snow Leopard, “most IT operations professionals are in a holding pattern,” according to Forrester analyst Benjamin Gray. Gray expects enterprises will begin Windows 7 deployments in late 2010 or early 2011.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you’d like listed, please send an email to feedback@processor.com.

- AUGUST -

- [AITP Southwest Missouri](#)
Aug. 18
Springfield, Mo.
aitpspringfield.org
.....
- [Oklahoma City AITP Chapter](#)
Aug. 18
Oklahoma City, Okla.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40
.....
- [ISSA Central Ohio](#)
Aug. 19, 8 a.m.
Platform Labs
1275 Kinnear Road
Columbus, Ohio
www.platformlab.org
.....
- [ISSA Oklahoma City](#)
Aug. 19
Spaghetti Warehouse
101 E. Sheridan Ave.
Oklahoma City, Okla.
www.issa-okc.org
.....
- [AITP Omaha](#)
Aug. 20, 5:30 p.m.
Seraph Corp.
Omaha, Neb.
www.aitpomaha.org
.....
- [AITP Tarheel](#)
Aug. 20, 6 p.m.
Foothill Brewery
638 W. 4th St.
Winston-Salem, N.C.
www.aitp.org
.....
- [ISSA Upstate SC](#)
Aug. 21, 11 a.m.
NuVox
301 N. Main St., Suite 5000
Greenville, S.C.
www.upstate-issa.org/index.htm
.....
- [ISSA Des Moines](#)
Aug. 24, 11:30 a.m.
1401 50th St., Suite 200
West Des Moines, Iowa
.....
- [ISSA Baltimore](#)
Aug. 26, 4:30 p.m.
Sparta Inc.
7110 Samuel Morse Drive, Suite 200
Columbia, Md.
www.issa-balt.org
.....
- SEPTEMBER -

[AFCOM](#)
[Central Ohio](#)
Sept. 9, 11:30 a.m.
Columbus, Ohio
www.afcomcentralohio.org
.....
- [AITP](#)
[Central Idaho](#)
Sept. 9, 11:45 a.m.
Owyhee Plaza Hotel
1109 Main St.
Boise, Idaho
www.boisestate.edu/dpma/dpmaci/centida.html
.....
- [AITP San Diego](#)
Sept. 9, 5:30 p.m.
Cloud Computing Event
San Diego, Calif.
sandiego.aitp.org
.....
- [AITP Washington, D.C.](#)
Sept. 10, 6:30 p.m.
Alfio’s Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc.ning.com
.....
- [ISSA Northeast Ohio](#)
Sept. 10, 8 a.m.
Corporate College East
4400 Richmond Road
Warrensville Heights, Ohio
neoissa.org
.....
- [AITP Garden State](#)
Sept. 15
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=21

PRODUCT SPOTLIGHT

A Look At Some Of The Newest Tape Backup Products

Crossroads Systems ReadVerify Appliance

Crossroads Systems RVA (ReadVerify Appliance) is designed to provide a simple means of monitoring, tracking, and reporting on tape devices and media to help ensure the optimal performance and health of tape devices and tape media, in addition to ensuring tape backup system integrity. With adequate visibility, RVA helps data center administrators discover and mitigate any media or hardware issues before an organization-threatening failure occurs.

Best For: Proactively monitoring and validating the integrity of tape media and tracking the performance and utilization of tape devices.

- Monitors, tracks, and reports on performance and utilization in real time
- Helps prevent backup system failures
- Offers insight into incomplete or failed backups
- Helps discover and address system issues before failures occur
- Automatic alerting and reporting

ReadVerify Appliance RV50f, 1 to 4GB FC, RJ-45 MGMT Port, 1U, 90 slots included is \$5,900 (MSRP)
(512) 349-0300
www.crossroads.com



Crossroads Systems TapeSentry

Designed to alleviate the security issues associated with tape storage, Crossroads Systems TapeSentry encrypts tape media to prevent unauthorized access, theft, and data loss. Adding TapeSentry to a data center won't impact server performance and is designed for quick and easy implementation with the ability to configure any port, host access, or device connectivity. TapeSentry features centralized key management via a Web-based interface with support for flexible, non-drive, or device-dependent encryption policies. Other features include multisite key replication, automatic back-up and recovery, and secure sharing of data in the event of a disaster recovery effort.

Best For: Rapidly and cost-efficiently encrypting your data stored on tape with simple, secure, and robust key management.

- Data encryption to prevent loss or theft
- Support for secure key management
- Requires no infrastructure updates or add-ons
- Avoids performance slowdowns during integration with backup applications
- Flexible encryption policies
- Easy setup and configuration

TapeSentry f2, 2-port, 4Gbps tape encryption appliance is \$17,500 (MSRP)
(512) 349-0300
www.crossroads.com

Gresham Enterprise Storage Clareti Storage Director

Clareti Storage Director, Gresham's backup virtualization product, is designed to deliver streamlined, optimized, and simplified data protection for IBM Power Systems, HP NonStop, and Open Systems. Storage Director works seamlessly with Gresham's Backup Virtualization tools and also integrates disk and tape to help users gain optimal data protection. By using Storage Director, data centers may save costs by reducing or repurposing existing hardware, delivering cost-efficient growth, increasing operational uptime, simplifying operations, decreasing backup failures, and cutting down on the number of required tape volumes.

Best For: Environments looking to improve backup and restore performance, lower operating expenses, and better utilize existing hardware.

- Easy integration with existing backup applications, drives, libraries, and media types
- Task automation
- Scalability for small sites up to large enterprises
- Simple for administrators to use
- Provides disk performance combined with the security and cost efficiency of tape



Starts at \$10,000
(800) 450-0575
www.gresham-storage.com

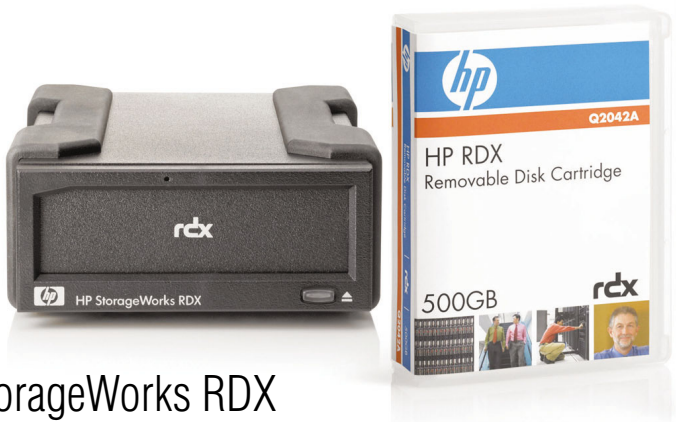
HP StorageWorks RDX Removable Disk Backup System

The RDX Removable Disk Backup System offers fast disk-based performance with the ability to store 160GB or 320GB of data on a single removable disk cartridge at speeds of up to 108GB per hour. Portable, durable, and rugged removable disk cartridges let you simply and securely store backups offsite for complete data protection and peace of mind.

Best For: Small and medium-sized enterprises needing a simple, inexpensive, and reliable way to protect critical data and systems.

- Drag-and-drop file access designed to make backup as simple and convenient as a mouse click
- Backup of data at hard drive speeds of up to 108GB per hour
- Random disk access to restore critical files in seconds
- Easy scalability and expandability
- Plug-and-play implementation

Starts at \$279
(800) 289-6947
www.hp.com



HP StorageWorks DAT160 USB Tape Drive

Protect your small or medium-sized enterprise, remote office, or workgroup with the HP StorageWorks DAT 160 USB Tape Drive offering the highest capacity and performance with the ability to store up to 160GB of compressed data on a single cartridge at speeds of up to 50GB per hour (assuming 2:1 data compression). The DAT 160 USB Tape Drive is available with a USB 2.0 interface for low-cost universal plug-and-play connectivity in a choice of models, including internal (which also fits in the 1U Rack-Mount kit) and external, making it compatible with virtually any server environment.

Best For: Small and medium-sized enterprises requiring cost-effective long-life data retention.

- Can store up to 160GB on a single cartridge, while backing up to 50GB per hour or one cartridge in about three hours
- Two-generation backward-compatibility with DAT 40 and DAT 72 tape drives
- Low-cost backup solution and ongoing low cost of ownership
- Universal plug-and-play native USB 2.0 interface
- Small half-height form factor and choice of models to fit servers, workstations, and rackmount kits

Starts at \$729
(800) 289-6947
www.hp.com



PRODUCT SPOTLIGHT

Compiled by Seth Colaner

Overland Storage
NEO 2000E & 4000E

Designed for easy installation and compatibility with future technologies, the Overland Storage NEO 2000E and 4000E offer embedded SCSI, Fibre Channel, or SAS connectivity. In addition to support for LTO half-height tape drive and direct-connect interfaces for lowering initial costs and ensuring data protection, the NEO 2000E integrates with Overland's REO Series of disk-based backup and recovery VTLs, Snap Server NAS appliances, and ULTAMUS RAID SAN. It also features a scalable, multimodular design from 30 to 240 cartridges per module. The 4000E features redundant power.



Best For: Midrange data storage requirements.

- Storage capacity of 12TB (2000E) or 24TB (4000E) up to 384TB
- Can handle 432GB per hour up to 13.8TB per hour
- Embedded SCSI, Fibre Channel, and SAS connectivity
- Support for LTO half-height tape drive and direct-connect interfaces
- Modular design for scalability
- Easy integration with existing storage devices and appliances

Starts at \$8,999 for the 2000E and \$39,999 for the 4000E
(888) 343-7627
www.overlandstorage.com

Spectra Logic T50e Tape Library

The Spectra Logic T50e Tape Library offers enterprise capabilities in a compact 4U rack-mount library with a range of support options to complement specific requirements. The T50e features LTO technology, library media management functionality, and increased security through the integrated BlueScale Encryption. It is compatible with all major backup packages and operating systems. Connectivity options on the T50e include direct-connect SCSI or Fibre Channel, with iSCSI support planned in the future.

Best For: SMBs and remote offices.

- Setup takes less than half an hour
- Management via Web browser for easy operation
- Built-in AES 256-bit BlueScale Encryption and Key Management
- Monitors its own drives, power supplies, controller, and robotics with the AutoSupport features
- Media Lifecycle Management and Certified Media tools to detect media errors before they happen

Starts at \$9,995
(877) 205-7005
www.spectralogic.com



Spectra Logic T680
Tape Library

The Spectra Logic T680 Tape Library features the ability to store a petabyte of data in a single rack space and is expandable up to more than 10,000 slots of storage. Designed to eliminate backup failures caused by dirty or overused tape media, the T680 supports Spectra's BlueScale software to provide a single layer for a number of management tasks.

Best For: Medium-sized businesses to small enterprises.

- Supports up to 680 tape cartridges and TranScales to the T950 for more than 10,000 tape cartridges
- 1.08PB (compressed) maximum capacity
- Supports 12 full-height tape drives (with support for up to 24 drives planned)
- 10.4TB/hour (compressed) throughput with LTO-4 drives and media
- Connectivity via nTier disk cache, VTL, Fibre Channel, SCSI, or iSCSI

Starts at \$67,780
(877) 205-7005
www.spectralogic.com

Sun Microsystems StorageTek SL3000
Modular Library System

The Sun StorageTek SL3000 Modular Library System lets you grow your tape automation environment at your own pace, from 200 to more than 3,000 cartridge slots. Its open design offers true mixed media, logical and physical partitioning capabilities, advanced management, and high-availability features, so you can consolidate mainframe and open systems environments while minimizing power, space, and operating costs.

Best For: Midrange storage needs.

- Scales from 200 to 3,000 cartridge slots
- RealTime Growth and Capacity on Demand simplify scalability
- Flexible solution for partitioning, sharing, and managing
- Employs technologies designed to simplify capacity planning
- Supports for both mainframe and open systems

Starts at \$67,990
(800) 786-0404
www.sun.com



Service Providers Offering Tape Recycling, New & Used Tape Media

Data Media Source

Data Media Source provides complete data destruction services for all tape media formats. The company reclaims used media, repurposing it to keep it from landfills or incineration and providing the disposer some form of reclaim value per tape. Data Media Source provides a secure means of erasing data and reclaiming tapes and components for further use. Total data security, controlled chain of custody, a detailed certificate of data destruction, and all logistics costs are included. And, pricing for services typically nets out to free or a net reclaim value, so companies can properly dispose of obsolete tapes and turn a laborious chore with a big labor cost into a completed solution with a net payback.

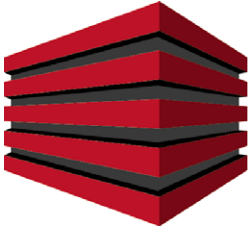


DATA MEDIA SOURCE

(800) 252-9268 • www.datamediasource.com

RecycleYourMedia/
Storage Media
Brokers

RecycleYourMedia buys excess new and used data tape media from companies when the media are out of archive or no longer in use. The company also recycles tapes that no longer have any resale value. The company's premise is to keep e-waste out of landfills, as tapes that have been written to only a few times can still be used. In fact, some tapes can be written to more than 1 million times. RecycleYourMedia helps the environment by keeping used media out of landfills and helping companies recoup initial IT expense and avoid costly shredding fees.



STORAGE
MEDIA
BROKERS™
YOUR BEST SOURCE FOR
DATA STORAGE MEDIA

(877) 798-2737 • www.recycleyourmedia.com

Windows 7: It's All About The Features

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frequency with which it was presented, along with the lack of useful information offered by the notifications.” Kelly says this has been addressed in Windows 7 by providing more granular control over when prompts appear onscreen and by offering accurate information about what has caused the warning.

AppLocker, a new feature in Windows 7, replaces software restriction policies and

required for critical services and applications. “The benefit here,” Kelly says, “is that you can isolate privileges for an application without the need to manage a new account.”

Kelly points out that many of the admin-focused features of Windows 7 (such as AppLocker and the new service accounts) apply to Windows 7 in a Windows Server 2008 r2 environment. “With so many compelling features tied to this new release of

enhancements, reliability improvements, user-friendly security controls, and a relatively slim overall footprint. However, if enterprises did not adopt Windows Vista last time around, Hsu says the challenge will be getting from WinXP to Win7. “Increasingly, we are finding that enterprise customers are taking advantage of this upgrade cycle to rethink their overall desktop strategy and implement an infrastructure that will make Windows 7 future migrations dramatically easier and less costly,” he says.


“Today, users have a very binary, unsettling transition—one day their PC is running XP, the next it is Windows 7, and rarely are any of their settings preserved,” Hsu continues. “By introducing Windows 7 virtual desktops and virtualizing applications, the transition can be much easier for enterprises. Users can still have their XP environment for a time, with the Windows 7 virtual desktop delivered to the same device. Then, use of XP can be phased out after the transition period is complete.”

In Hsu’s opinion, to leverage desktop virtualization for Windows 7, a key consideration is ensuring that users get the same rich desktop experience as a local PC. He says Windows 7 includes some fundamental enhancements to the way graphics and multimedia are displayed, namely Windows Presentation Foundation, which is built on

Survey Says: Windows 7

Here are a few findings from a survey conducted by market research firm Dimensional Research and commissioned by KACE (www.kace.com).

- Of those surveyed, 84% do not plan to upgrade existing Windows desktops and laptops to Windows 7 in the next year.
- About 72% indicated they are more concerned about upgrading to Windows 7 than staying with an outdated Windows XP operating system.
- Half of the respondents revealed they have considered moving from Windows to an alternative operating system, and 27% of those cited Mac OS as the top alternative.
- About 60% of survey respondents do not presently have a tool in place that automates operating system migration.
- Economic factors such as budget freezes and staff reductions were cited as other reasons to not immediately adopt Windows 7.

Microsoft’s DirectX technology and provides hardware acceleration and enhancements to graphics and user interfaces. 

Microsoft has focused more on how Windows 7 makes life better for administrators.

gives administrators the ability to control how users can use scripts, applications, and installation files. Rules are defined based on digital signatures to dictate the files that are permitted to run. If specific files are not included in the rules, those files are not permitted to run.

Kelly says managed service accounts have also been introduced in Windows 7 to reduce the account management overhead that is

Windows Server, there are likely to be a lot more than desktop updates taking place in the coming months,” he predicts.

From WinXP To Win7, Virtually

Calvin Hsu, director of product marketing for the desktop delivery group at Citrix (www.citrix.com), says Windows 7 offers a number of compelling features for enterprises and their users, including productivity

Network Traffic Management: The Big Picture

Continued from Page 1
QoS priorities and other contention management techniques.

Steven House, director of product marketing at Blue Coat Systems (www.bluecoat.com), sees two drivers for traffic management: to protect mission-critical, latency-sensitive applications such as VoIP, video, or remote desktop clients and to control “recreational” network traffic such as YouTube, Facebook, or P2P file-sharing. Frey largely agrees, noting that real-time communication has been the main catalyst behind QoS usage.

Back To Basics

The basics of QoS are quite simple—the ability to differentiate and discriminate between different traffic flows and provide preferred performance or bandwidth guarantees for time-sensitive applications under congested conditions. Unfortunately, the implementation is often mind-numbingly complex. Proper traffic classification is critical, says House; however, with more applications tunneling through HTTP port 80, it often requires deep packet inspection rather than merely relying on IP and Transport layer data.

Once traffic is classified, Burton Group senior analyst Eric Siegel outlines numerous QoS techniques, including traffic conditioning, policing, and shaping, flow queuing, link fragmentation, and interleaving. Vendors have introduced a number of queuing algorithms with an alphabet soup

of acronyms. However, for IT managers who don’t want to become experts in queuing theory, the bottom line, according to Siegel, is that real-time applications such as VoIP or IP teleconferencing require a strict priority queue above all other data, and remaining bandwidth should be allocated

With more applications tunneling through HTTP port 80, traffic classification often requires deep packet inspection rather than relying on IP and Transport layer data.

among flows managed via a class-based algorithm. Siegel adds that in order to avoid overloading available capacity and in turn violating performance guarantees, admission to the strict priority queue should be controlled using some form of flow conditioning.

Traffic Shaping & Conditioning Technologies

Although queue-based QoS prioritizes traffic, bumping the most critical packets or frames to the head of the line, Siegel says, “Flow [or traffic] conditioning techniques monitor network traffic loads in an effort to anticipate and avoid congestion at common network bottlenecks.” These typically follow one of two fundamental strategies: policing, which monitors and discards

packet flows that data rate limits, and shaping, which attempts to smooth out flows and avoid traffic bursts by buffering and signaling endpoints to reduce their transmission speed.

Traffic conditioning is often found in WAN accelerators; however, Siegel says several vendors offer special-purpose appliances that orchestrate conditioning across multiple LANs. Not surprisingly, most are high-end appliances designed for large enterprises or ISPs, although Siegel and Frey both note that many telecom providers

now offer traffic management services appropriate for SMEs.

SME Traffic Management Basics

Complexity is the biggest problem with traffic management/QoS systems, which Siegel cautions “must be carefully designed and implemented to ensure that all network components work together properly to provide some traffic flows with better service than others”—a requirement, in addition to cost, that makes them infeasible for smaller enterprises. “A major goal for SMBs is to avoid complexity,” he says, adding that SMEs should “think about ways to simplify the QoS situation, use it only when necessary, and use the simplest form that works.” Yet all isn’t lost, because, Siegel notes, “In many cases, much simpler QoS technology,


or no QoS at all, can provide the needed performance without the expense and management headaches of complex QoS systems.” These might include an appliance, service provider, or just separate VoIP and data VLANs.

Frey points out that the same technology used to classify and prioritize traffic is needed for security threat detection; thus, many vendors have integrated QoS features into UTM appliances. Some dedicated traffic-shaping products are specifically designed for the SME. In addition to traffic shaping, these often incorporate features such as WAN and VPN load balancing and failover, content acceleration and filtering, and security features (firewall, IDS).

Applications For Traffic Management

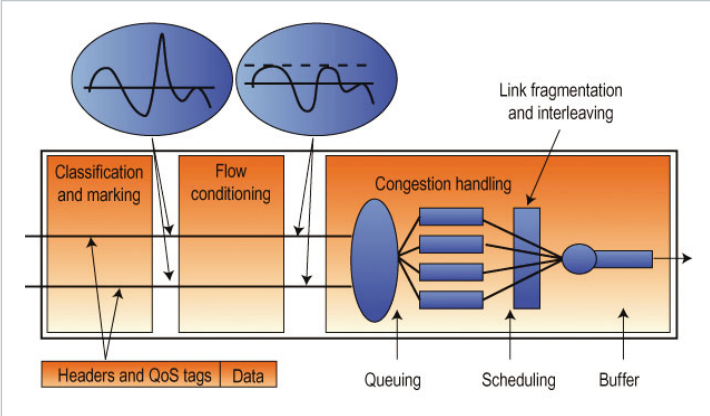
Before embarking on a traffic management or QoS initiative, Siegel says it’s important to understand existing network conditions. “People never know what’s on their network,” he says, adding that network managers should enable netflow accounting on routers and switches to gather traffic statistics. Yet, as House points out, netflow can’t identify and classify the new generation of network applications that tunnel traffic through port 80, a limitation easily overcome by traffic shaping appliances using deep packet inspection.

Siegel says traffic analysis may reveal that rather than having a QoS problem, the network may just have an “inappropriate use” problem, with employees downloading movies or other bandwidth-hogging content. Instead of a complex QoS solution, he quips, “You may just want to put in some [router] ACLs to blow this stuff away.” House adds that packet-shaping appliances offer a less draconian solution because they can automatically identify and classify such usage and build simple policies—for example, limiting all social networking traffic to 10% of the total bandwidth.

Although traffic management is a powerful tool, particularly on large, complex networks, it’s no panacea. “Quality of service is a useful technology for providing multiple service levels. However, it doesn’t provide additional bandwidth, and it can be expensive and complex to implement,” notes Siegel, concluding “It’s always worth careful analysis to see if simpler, less-expensive alternatives can handle the situation instead of a full, complex QoS implementation.” 

Router QoS Technology Overview

QoS devices provide a number of different functions as shown in the block diagram of a complex router. Traffic enters the router, where it’s examined by the classification function. Flows are then conditioned to ensure they conform to bandwidth limits. Should there be congestion on an outgoing route, a flow’s packets are temporarily placed in a queue. Finally, the output from a router can have larger data rate bursts than the inputs to a router; therefore, routers usually provide a final traffic-shaping buffer.



SOURCE: “TRAFFIC CONTENTION MANAGEMENT TECHNOLOGIES FOR QUALITY OF SERVICE”; BURTON GROUP IN-DEPTH RESEARCH OVERVIEW BY ERIC SIEGEL; APRIL 30, 2009.

When To Implement Windows 7

Hardware Refreshes & Software Support Are Factors To Consider

by Bruce Gain

MICROSOFT IS PUTTING the finishing touches on Windows 7 for launch later this year, but most enterprises have not even adopted Vista yet after it became available more than two years ago. According to analyst firm Gartner, more than 50% of enterprises plan to skip Vista altogether.

For those enterprises with Windows XP, admins generally remain content to keep the previous-generation OS loaded on their workstations as long as possible, says Roger L. Kay, an analyst for Endpoint Technologies Associates (www.ndpta.com).

Brad Kowal, an IT manager for Shands HealthCare in Florida, for example, says only about 10% of his enterprise's PCs run Vista and that WinXP will remain its principal platform. "I think Microsoft is now off the beat of the upgrade cycle when it comes to businesses because of the Vista launch," Kowal says. "It should be interesting to see how they convince businesses to bypass Vista and go to Windows 7 as the next upgrade."

But even if enterprises are less than enthusiastic about Microsoft's latest and greatest operating system, enterprises will eventually have to outgrow Windows XP, as well as Vista, whether due to lack of vendor support or compatibility issues associated with the legacy operating systems in the future. But how long can admins wait before they must install Windows 7 on their enterprises' workstations? Here is a look at what you need to consider as you decide when to implement Microsoft's latest OS.

New Equipment, New Windows?

The fact that most admins have avoided Vista and kept WinXP means that there is a significant supply of older equipment in use that will soon require an upgrade, Kay says. Among the organizations that have skipped Vista, WinXP is seen as "quite serviceable," Kay says. However, he believes it will be a good idea for enterprises with PCs and laptops that are four to five years old to consider installing Windows 7 after its launch as part of a PC refresh cycle when the operating system becomes available.

Although it is not recommended to replace WinXP or even Vista with Windows 7 on existing PCs, it does make more sense to upgrade as part of the next enterprise PC and laptop upgrade cycle, Kay says.

"You will likely see Windows 7 installed with refreshes in which you swap out the hardware, the environment, and the applications," Kay says. "Because enterprise client hardware is getting old, there will be a refresh cycle towards 2010."

In fact, the Windows 7 upgrade cycle will be different from past ones from an enterprise perspective because Windows 7 will likely represent the first Microsoft OS launch since Windows 95 that "stimulates an upgrade cycle," as Microsoft will have

likely ironed out compatibility problems and upgraded security features early before its launch, Kay says.

For enterprises with Vista PCs, Michael A. Silver, an analyst and research director at Gartner, recommends only installing Windows 7 as soon as it is time to refresh PCs.

"We are not advocating installing Windows 7 over Vista on existing machines, because our philosophy is to recommend buying PCs with a new OS and trying to run that OS until the PC dies," Silver says. "That way, you are not going to be sending a lot of money to Redmond, and you don't have to



touch these machines with big OS upgrades in the middle of their lives."

Not Waiting For SP1

Admins have traditionally waited for Microsoft's first service pack before installing Vista, WinXP, and previous operating systems on their enterprises' machines. This was seen as a prudent move in order to give Microsoft time to work out operating system errors, compatibility problems, and other issues, which the first service packs often fixed. But this time around, it may be unnecessary to wait for SP1 for Windows 7, because some analysts believe that Microsoft will have worked out the bugs earlier compared to its previous OS launches.

"Windows 7 is likely to be stable sooner than XP, and there is not a really good reason to wait that long for SP1," Kay says.

Indeed, after its scheduled October release, enterprises could safely begin to adopt Windows 7 early next year if they are upgrading their PCs, Silver says.

"We think that the first service pack is a bit of a bogus indicator at this point, mostly

Key Points

- Analysts say that Microsoft will work out the bugs in Window 7 early, so admins can forgo waiting for SP1 before implementing the OS.
- Prepare to bring Windows 7 into the enterprise already installed on new PCs as part of a product refresh cycle.
- Testing the OS' compatibility with software and hardware interfaces in a lab environment is crucial before making the switch.

because SP1 may be out already by the time you get support from your application vendors, which we believe is more important than SP1," Silver says.

Vendor & System Support

Vendor support is also important to consider. Suppose your enterprises' workstations are running WinXP with no problems and you see no need to replace the systems in the foreseeable future. Even so, at some point, your application vendors may no longer support their offerings for WinXP, Silver says. "Let's assume you have a number of important back-client applications, and let's assume they will continue to put out a new release every few years," he says, adding that it will be several years later before support issues arise with Vista. "By 2012, it is going to become fairly common that these vendors will no longer support XP on their new releases, while finding hardware with driver support will also become an issue."

Beyond software vendor support, it's important to make sure your hardware is ready, as well. As obvious as it may seem, a key step in planning for a Windows 7 implementation in your enterprise should involve installing the OS on a few test machines to gauge hardware driver and software application support first. The date by which you need to outfit your enterprise with new PCs may be a year or more away, but that doesn't mean you shouldn't install and run the new OS in a lab environment. By doing so, you can have the compatibility headaches ironed out long before your upgrade goes live.

"Since application compatibility is still at the forefront of the minds of IT, testing [should] start early on staging environments. This will allow for IT to begin to build a repository of applications that work with Windows 7," says Nick Cavalancia, vice president of Windows management at ScriptLogic (www.scriptlogic.com). "As new machines are purchased, Windows 7 will be utilized as is appropriate based on app usage." ■

Microsoft To Pull Support For WinXP In 2014

Microsoft has announced that it will no longer support Windows XP after 2014. Although some enterprises could get away with running the OS for years to come if hardware and

software compatibility does not pose a problem, Microsoft's cut-off date will mean that a lack of security and other necessary updates will eventually spell the end of

WinXP in the enterprise. "In April 2014, you have to start moving to higher ground," says Michael A. Silver, an analyst and research director at Gartner.

Upcoming IT Events

For more Upcoming IT Events, see page 3.

AITP Southwest Missouri

Sept. 15
Springfield, Mo.
aitpspringfield.org

Central Ohio PMI

Sept. 15, 8 a.m.
Platform Labs
1275 Kinnear Road
Columbus, Ohio
www.platformlab.org

Central Ohio VMware User Group

Sept. 15, 9 a.m.
Platform Labs
1275 Kinnear Road
Columbus, Ohio
www.platformlab.org

ISSA St. Louis Chapter

Sept. 15
St. Louis, Mo.
stl.issa.org

Oklahoma City AITP Chapter

Sept. 15
Oklahoma City, Okla.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

AITP Northeastern Wisconsin Chapter

Sept. 16, 4:15 p.m.
Holiday Inn Select
150 S. Nicolet Road
Appleton, Wis.
new.aitp.org

ISSA New Jersey

Sept. 16
nj.issa.org

ISSA Oklahoma City

Sept. 16
Spaghetti Warehouse
101 E. Sheridan Ave.
Oklahoma City, Okla.
www.issa-okc.org

AITP Cornhusker "Connecting IT & People" Seminar

Sept. 17, 8:30 a.m.
SCC Continuing Education Center
Lincoln, Neb.
www.aitpcornhusker.org/uploads/2009_Seminar_Flyer.pdf

AITP Greater Boston

Sept. 17
www.bostonaitp.org

AITP Omaha

Sept. 17, 5:30 p.m.
Seraph Corp.
Omaha, Neb.
www.aitpomaha.org

AITP Tarheel

Sept. 17, 6 p.m.
Foothill Brewery
638 W. 4th St.
Winston-Salem, N.C.
www.aitp.org

Boston Society for Information Management

Sept. 17
www.simnet.org/Chapters/Northeast/Boston/tabid/78/Default.aspx

ISSA Upstate SC

Sept. 18, 11 a.m.
NuVox
301 N. Main St., Suite 5000
Greenville, S.C.
www.upstate-issa.org/index.htm

AITP Pittsburgh

Sept. 21, 6 p.m.
Sokol Club-Southside
2912 E. Carson St.
Pittsburgh, Pa.
www.aitp-pgh.org

- OCTOBER -

Data Center World

Oct. 4-7, 2009
Orlando, Fla.
www.datacenterworld.com



**Data Center
WORLD**



IBM’s Masking Gateway For Enterprises Technology Protects Sensitive Data

Your bank has it, your doctor has it, and your employer has it. Heck, even your insurance provider has it. We’d probably rather not think about the implications, but the sad fact remains: Your sensitive data is in a lot of different places. But a new technology from IBM takes a unique approach to protecting confidential data from being viewed or stolen by unauthorized personnel.

IBM unveiled its MAGEN (Masking Gateway for Enterprises) technology, which essentially turns sensitive documents into image files and employs optical character recognition to determine which fields contain which data. It then masks the sensitive data based on preconfigured rules. When an entity requests sensitive information, for instance, to determine your eligibility for a loan or to have your medical insurance pay for a given procedure, MAGEN automatically masks all of the sensitive information not pertinent to your loan approval or insurance claim, secures the masked image, and then sends it to the requestor. Because it uses image files, no trace of the sensitive data is attached to the file, making it impossible for malicious users to extract that information from the document. The offering also doesn’t change the original document.

Vendor- & Platform-Neutral

MAGEN works the same way for all applications, making it a vendor- and platform-neutral option that supports any communications protocol. According to Tamar Domany, MAGEN project leader, the offering is generic, supporting any data type, any application, and any level of authorization.

Administrators use a Web console to define access according to familiar rules and role-based policies. MAGEN consists of an SOA-based masking gateway that lets users add new services/flows to address evolving requirements, and it is capable of supporting a variety of information sharing scenarios, data types, and batch/online modes. Other benefits include on-the-fly masking; a single point of installation; and centralized management, reporting, and configuration.

MAGEN resides between the client’s secure data center and the data requestor, such as an outsourced call center. It requires minimal change in customer environments, supports legacy applications, and introduces only minimal delays in operation. At this point, MAGEN is only in the prototype phase and not available for purchase or implementation.

by Andrew Leibman

Are You Ready For Windows 7?

Careful Evaluation Is Key To A Successful Deployment

by Sandra Kay Miller

WITH THE ESTIMATED ship date of Oct. 22 only a few short months away, it’s time to start considering a Windows 7 OS upgrade. Although many organizations have chosen to maintain the stable Windows 2000 and XP on their machines, those that skipped Vista are hoping for a more robust and mature operating system with this latest release.

Such an upgrade shouldn’t be taken lightly, however; careful planning, testing, and evaluation are necessary before making the leap to a new OS. Here are some things to keep in mind in the testing stages.

Getting Ready

According to Michael Cobb, founder and managing director of Cobweb Applications (www.cobwebapplications.co.uk), “The best thing users can do is make themselves fully familiar with what Windows 7 has to offer.” (For more information on the new OS, see “Windows 7: It’s All About The Features” on page 1.) He suggests downloading the Windows 7 release candidate to test the current environment and software of individual systems.

For enterprise deployments, Microsoft has also provided the MAP (Microsoft Assessment and Planning) Toolkit for Windows 7 Enterprise—an agentless utility that will inventory, assess, and create a comprehensive report of clients, servers, and applications on the network. Additionally, MAP addresses security issues by identifying systems with third-party malware applications and Windows Firewall.

In addition to ensuring existing machines are capable of supporting Windows 7, Microsoft has stepped up its efforts to have hardware vendors ready for the official release. Certified Microsoft Partners will be required to submit proof that their products are compatible with the new OS prior to being allowed to display the Windows logo with their hardware.

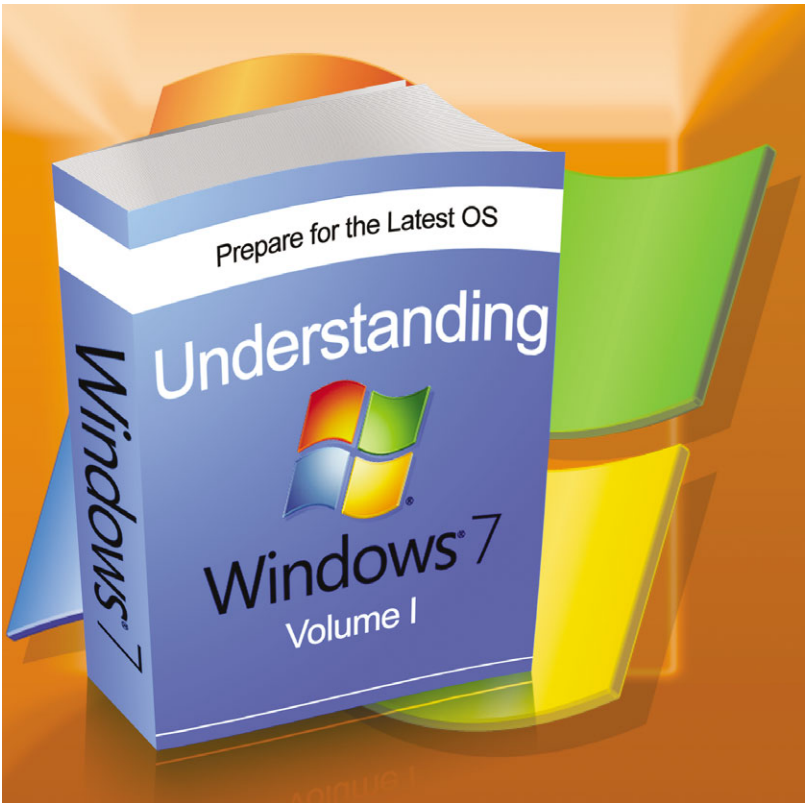
“If the Microsoft Windows logo appears on hardware, we want to be certain that it fully supports our software,” says Craig Rowland, senior program manager at Microsoft.

Which Version?

Windows 7 offers a variety of editions ranging from Home to Enterprise. Although SMEs may opt for the Professional version, the Ultimate and Enterprise editions offer a number of additional features, including DirectAccess, Enterprise Search, BitLocker, BitLocker To Go, AppLocker, Virtual Desktop, and multiple language interfaces. (See the “Windows 7: Professional Or Enterprise?” sidebar for more details.)

“I think that BitLocker To Go, AppLocker, and DirectAccess will be very popular features for administrators,” says Cobb.

For organizations that eschewed Vista with plans to skip to Windows 7, there will be no direct upgrade path. Citing too many fundamental architecture changes to computers since the release of WinXP, Microsoft chose to not provide an upgrade path from pre-Vista OSes to Windows 7.



Although Microsoft is providing a discounted upgrade package for WinXP users so they will not have to bear the brunt of a full-priced version, to upgrade machines to Windows 7 will require a clean install. That means that end users will still be responsible for backing up and reloading user data and applications, which translates into more IT hours and ultimately more costs.

For Vista machines, the upgrade path could be equally murky. The migration path

Key Points

- Take advantage of the Microsoft Assessment and Planning Toolkit for Windows 7 Enterprise tool to assess your upgrade needs.
- Only machines with Windows Vista can upgrade directly to Windows 7.
- If the OS upgrade isn’t tied to a hardware refresh, be sure to test the new OS on a sample machine to ensure interoperability between the OS and your existing hardware and software.

is very specific according to OS edition. For instance, Windows Vista Business can only upgrade to Windows 7 Professional and Windows Vista Ultimate to Windows 7 Ultimate. But for users upgrading between editions, a clean install must be performed. Clean installs are also required for upgrading between 32-bit and 64-bit versions.

For those organizations with an immediate purchase timeline and budget for new hardware, Microsoft and its OEM partners are offering free upgrades to Windows 7 within a certain time frame.

Practical Advice

“It pays to plan well in advance for an OS upgrade,” says David Jackson, a former corporate IT professional who now provides targeted consulting to organizations and nonprofits with limited IT budgets.

For SMEs that may not have staff devoted completely to IT or those whose technology departments are already stretched to the limit, Jackson offers some tips for upgrading to Windows 7.

“The easiest OS upgrade path is to make the switch when you purchase new hardware. OEM versions are often the least expensive, and you know the OS will be compatible with the hardware on which it’s running.”

This is especially true for organizations with a heterogeneous hardware environment. “Many companies allocate new hardware to their power users and then trickle down the older PCs to administrative staff. Trying to upgrade multiple systems of varying ages all at once to the latest Microsoft OS is always a recipe for disaster,” Jackson says.

For organizations choosing to upgrade existing hardware, Jackson stresses the importance of testing third-party applications prior to moving to Windows 7. “The OS may run fine on the hardware, but if you have a critical application that won’t run on the new OS, it may be more economical to make do with the older OS,” he says.

Perhaps the most often overlooked portion of an OS upgrade is the users themselves. Cobb points to several changes in the Windows 7 interface designed to streamline the user experience, but from Jackson’s experience, he knows that when users can’t find what they need, no matter how trivial, they’re apt to place a call to the help desk or IT department.

“When making the upgrade to Windows 7, especially if you’ve skipped Vista, it’s well worth the effort to spend time educating the users about new features,” says Jackson. [P]

Windows 7: Professional Or Enterprise?

Deciding between the Professional and Enterprise versions of Windows 7 is a tough task for SMEs. To ease the process, here is a look at what the full-featured Enterprise version has to offer over the more basic Professional version.

- **AppLocker:** Allows administrators to determine what applications are allowed to run on centrally managed machines.

- **BitLocker & BitLocker To Go:** Automated encryption for both systems and portable storage such as flash drives and USB drives.
- **BranchCache:** Reduces download times to remote locations.
- **DirectAccess:** Eliminates the need for a VPN while providing secure network access to remote users.
- **Enterprise Search:** Optimizes searches

between networked locations, including SharePoint sites.

- **Interface for multiple languages:** A single OS install supporting multiple languages.
- **Virtual Desktop Infrastructure:** Better user experience for VDI with multimonitor and microphone support that can reuse virtual hard drive images to boot a physical PC.

What’s Next For Microsoft?

Future Projects Are Likely To Target Mobile Workers, But Experts Don’t Expect Massive Change

by Christian Perry

WITH BILLIONS OF dollars spent annually on research and design, Microsoft spawns intrigue like few other companies on the planet. Although the Washington-based giant often remains tight-lipped on future plans, analysts and other experts are often able to formulate an idea of what Microsoft has in store for the enterprise space. And now, with the emergence of Windows 7, those plans are seemingly more evident than ever.

“Windows 7 is the continuation of the transition to anywhere-accessible data from any device—smartphones, netbooks, etc.,” says Matt Scherocman, vice president of consulting services for PCMS IT Advisor Group (www.pcmsdatafit.com). “We’re also seeing a move away from the keyboard and mouse to interactive screens, better handwriting recognition, improved speech recognition, [and] video. I feel that Windows 7 will be a platform on which solutions will be built.”

Whereas Windows Vista failed to find widespread success in the corporate realm, Windows 7 is moving forward with impressive early momentum, fueled in part by Microsoft’s services-heavy vision of the future.

Service Strategy

According to Microsoft sources, an increasing number of Windows experiences will be service-enabled or powered by services. “The platform itself is designed to interact with services, and the new device experiences in Windows are completely delivered through services, built to host services, and designed to be enriched by services. As services become richer, they increasingly tap into the power of the PC for the most compelling interfaces, graphics capabilities, hardware acceleration, offline storage, computational power, and increased performance,” says a Microsoft source.

This philosophy ties deeply into the growing cloud trend, which delivers freedom to organizations in ways they’ve rarely seen in previous IT implementations. Richard Rabins, co-founder of Alpha Software (www.alpha software.com), says that the cloud/SaaS trend is forcing Microsoft to rethink its business model and re-engineer its applications. However, he stresses that the company’s

vision of software-plus-services remains just that—a vision.

“Using Office with Office Live is a royal pain compared to Google Docs, for example. They have a lot of work to do. That said, they will surely keep coming back at this problem until they are a leader in the space,” Rabins says. “This will be a long and bloody war for dominance in SaaS, cloud services, apps, OS platforms, and more, and Microsoft has a history of emerging intact in battles where the odds appeared stacked against them.”

According to Microsoft, the foundation of the software plus services strategy is Windows, which can weave devices, applications, and services across the server, PC, mobile phone, and other devices. As corporate landscapes shift to accommodate the use of more devices, this strategy could pay off. Anthony Vitnell, senior solutions architect at Dimension Data (www.dimensiondata.com), says that previous Microsoft operating systems failed to provide mobility features for collaboration, security, and remote device management that mobile employees demand. However, those needs will be met with



Windows 7 and likely will continue to evolve in future Microsoft projects.

Only Partly Cloudy

Although the push for mobility will likely drive a huge segment of future Microsoft projects, don’t be quick to write off the desktop altogether, Vitnell says. He predicts that

the traditional (that is, desktop) OS will continue to enjoy a large percentage of market share due largely to third-party applications and requirement for offline access to business tools.

“I couldn’t imagine not being able to leverage the Office suite for writing a document while I was on a plane simply because there was no Internet access,” Vitnell says. “Microsoft understands this and has been cautious with the move into the cloud/SaaS to ensure that business customers, and not just consumers, will see benefits in the online space. There are literally millions of applications developed for the Windows operating system that are intended to be leveraged on a physical machine, and as such, there isn’t a place for these applications to be delivered


Key Points

- Windows 7 is slated to serve as the base for Microsoft’s far-reaching software-plus-services strategy that aims to extend the power of the PC.
- Microsoft is also infusing a strong mobile focus into its software and will continue along that path as mobile workers seek more powerful, flexible methods for working with data.
- Although the cloud movement will heavily influence future projects, the need for offline data will prevent Windows and other Microsoft software from developing an overwhelming offline persona.

via the cloud. These will continue to be services on a traditional OS.”

On the other hand, says Rob Enderle, president and principal analyst of the Enderle Group, Microsoft might be focusing so heavily on SaaS-type offerings that the company is now distracted from maintaining customer loyalty in its three keystone products: Windows, Office, and IE. For example, he says that other Microsoft business products are either already “well along the path of either becoming SaaS offerings or addressing the problems related to a much higher dependence on the Web because they grew up in the dot-com era. I would expect a higher level of cross-pollination between them for their next round of development.”

Foreign Pressure

Forces outside of Microsoft itself may also influence the company’s future projects. Enderle says that the European Commission is forcing Microsoft to rethink its operating system, which he says has “become overly complex and contains too many features that have been increasingly marginalized.” That, along with Google’s ramped-up efforts in the OS realm, could result in future Windows operating systems that are far simpler, have previously bundled features that are broken out, and come either cheaper or free, Enderle predicts. 

Cracking The Crystal Ball

Microsoft’s exact future plans can be difficult to predict with certainty, despite the massive resources the company dedicates to upcoming projects. However, that doesn’t stop these experts from taking their best shot at forecasting.

“As Microsoft continues to increase the integration capabilities [of Microsoft Office], we will see more features out of the box to extend

Office into business processes and line-of-business applications. This will allow organizations to provide a common Office interface to end users that will limit training requirements and increase productivity.”
—Anthony Vitnell, senior solutions architect at Dimension Data (www.dimensiondata.com)

“As [SharePoint] grows in maturity, I think we will see more penetration

across the market and more deployment within individual companies. The 2010 version [will have] better integration into the way people work [particularly with collaboration], more business intelligence tools, and significant enhancements to the interface.”
— Matt Scherocman, vice president of consulting service for PCMS IT Advisor Group (www.pcmsdatafit.com)

“I see Microsoft continuing to offer servers and services that round out their enterprise stack for businesses and ISPs/ASPs. I also see a lot of these servers becoming fully cloud-based and sold as managed services, as opposed to bits that have to be installed.”
—Richard Rabins, co-founder of Alpha Software (www.alpha software.com)

Banking & Finance Sector Gets An IT Spending Boost

Some surprising results came from the recent 20th annual Computer Economics survey of IT spending and staffing metrics. According to the IT research and advisory firm Computer Economics, although 2009 and 2010 IT budgets have decreased overall, the troubled banking and finance industry saw a 4.9% increase. Other industries that saw growths in IT budgets included healthcare providers (4.7%), professional and technical service firms (4%), and utilities and energy (1.3%).

“The rise in spending in the banking and finance sector, though, is surprising,” says John Longwell, director of research at Computer Economics. “We think as banks merge and consolidate, this is stimulating investment IT infrastructure. Banks are very IT-intensive and then need to invest in these systems. Keep in mind that while the typical bank is spending more, there are fewer banks.”

Other industries have not been as fortunate. The biggest drop in median IT operational spending occurred in industries such as discrete manufacturing (down 5.5%), process manufacturing (down 2.5%), and retail (down 1%).

Different Recession

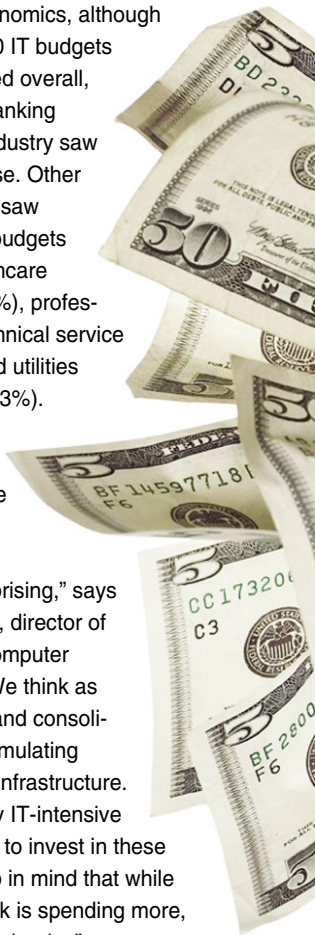
According to Longwell, this recession differs from the 2001 recession, which caused the IT industry to hemorrhage jobs caused by overspending and overinvestment in the rapidly growing technology sector. Since 2001, there has been a reluctance to hire permanent staff, more use of contract workers, and an increase in outsourcing, Longwell says.

About 45% of organizations increased IT operational spending over the past year, according to Computer Economics. During a recession, this number is generally lower than 50%. But, the Computer Economics survey shows, the percentage of IT organizations spending more money is still ahead of the numbers from 2002, when just 36% boosted IT spending.

According to the survey, 49% of IT executives say they plan to spend less than the amount apportioned in their 2009/2010 budgets. Just 9% say they plan to increase their IT budgets.

“We are hopeful that IT spending will recover next year, along with the economy, but we don’t anticipate a big upswing,” Longwell says. “IT executives remain very cautious and uncertain as to whether they will be allowed to spend all the money in their budgets. They are continuing to focus on operational improvements, and many find their current operational budgets adequate. IT organizations will come out of this recession leaner and more efficient, and IT executives are not going to be in a mood to take on big risks.”

by Tessa Warner Breneman



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HP Integrity BL870c Server Blade

Designed to support mission-critical application demands, the HP Integrity BL870c server blade brings the industry-leading reliability, availability, and security found in all HP Integrity servers to the HP BladeSystem c-Class. The BL870c offers dual-core Itanium processing capabilities, impressive memory expansion, and management tools that make it easy to deploy and maintain. iLO 2 (Integrated Lights Out 2) Advanced Pack is standard with the BL870c and offers unprecedented ease in advanced remote server management. The Blade Edition includes a virtual KVM and graphical remote console at no additional cost. HP Systems Insight Manager helps IT organizations save time with simple and reliable hardware infrastructure provisioning monitoring and control.

Best for: Enterprises of all sizes, from large organizations to small branch offices and departments.

- Up to 192GB DDR-SDRAM via 24 DIMM slots
- High-performance HP zx2 chip set
- Four hot-plug small form-factor SAS disk drives
- Three mezzanine expansion slots to support a wide variety of I/O mezzanine cards simultaneously

(800) 888-9909 | www.hp.com

HP ProLiant DL165 G6 Server

Functioning as a high-performance blade solution, the HP ProLiant DL165 G6 Server deploys on compute- and I/O-intensive environments. It features the six-core AMD Opteron processors to enhance its midmarket capabilities. In addition, it includes smart array controllers, high-efficiency power supplies, and high-efficiency processors for maximum frequency without increased power consumption.

Best for: Compute- and I/O-intensive environments, Web serving, and midmarket server deployments.

- Six-core AMD Opteron processors with increased performance
- Smart array controllers
- Higher-efficiency 500W power supplies for increased performance per watt and reduced TCO
- Optional redundant power supply

- Essential management features
- Tool-less rails for fast deployment in scale-out environments
- Cost-optimized 1U platform

(800) 888-9909 | www.hp.com



IBM BladeCenter HS21

The IBM BladeCenter boasts quick installation to produce efficient results within the IT data center, and it's designed to fit well into any chassis with flexibility and power efficiency. The blade configuration is simple yet ideal for the data center, merging such technologies as the integrated systems management processor, light path diagnostics, and predictive failure analysis for optimal power management capabilities. To enable remote management, the BladeCenter HS21 uses the IBM System Director to automate IT tasks from a single graphical interface.

Best for: Data centers that need to add or change blades with little to no system interruption.

- Up to two high-performance dual-core or quad-core Intel Xeon processors
- Dual Gigabit Ethernet controllers featuring load-balancing failover
- SAS, iSCSI, Fibre Channel, Ethernet, and InfiniBand expansion capabilities
- Support for two internal SAS HDDs/SSD; hot-swap SAS HDDs; optional RAID 5 controller with cache
- Intel Hyper-Threading technology supports next-generation network application
- Fault protection, error checking, and correction for 32GB buffered DIMM internal memory (8GB DIMM support)
- Easy, reliable connection via dual redundant paths connected to passive midplane
- Higher availability and increased server uptime available through LED troubleshooting guide

Starts at \$1,517
(866) 883-8901 | www.ibm.com



IBM BladeCenter HS22

IBM BladeCenter HS22 is an easy-to-use two-socket blade optimized for performance, power, and cooling that provides high-speed I/O and support for high memory capacity and fast memory throughout. Featuring the latest Intel Xeon 5500 processors, the HS22 offers outstanding performance, flexible configuration options, and simple management in an efficient server designed to run a broad range of workloads.

Best for: Data centers with the goal of managing growth and maintaining platform stability.


- More performance, more energy efficiency, and lower cost to run the most demanding applications
- Exceptional power management with integrated tools such as the IBM Systems Director Active Energy Manager and Blue Path Cooling blade design
- Increased uptime with integrated light path diagnostics and Predictive Failure Analysis, which detect component failure before failures occur

Starts at \$2,145
(866) 883-8901 | www.ibm.com



PRODUCT SPOTLIGHT

Compiled by Joanna Safford



IBM BladeCenter LS21

In terms of green infrastructures, the IBM BladeCenter LS21 is designed to perform with efficiency and precision. Its flexible configurations support chassis, I/O, and storage options across the platform. To save energy without altering performance results, the BladeCenter LS21 uses 25% less interior space due to its ultra-slim construction and high-density features. The IBM Director and IBM Director Extensions access essential system information, increase uptime and capabilities, and offer reliable system management

Best for: Data centers interested in maximizing power efficiency by lowering consumption and occupying less space.

- AMD Opteron processors draw less power than other standard server processors
- Integrated dual Gigabit Ethernet connections
- Integrated systems management processor notifies in advance of potential system failures
- Supports Red Hat/SUSE Linux ES 9/Microsoft Windows Server 2003 and R2/Solaris 10/VMware 3.5
- Three-year onsite limited warranty that offers expert assistance and advice

Starts at \$1,241
(866) 883-8901 | www.ibm.com


NEC Express5800 SIGMABLADE/120Bb-6 Standard Blade Server

NEC's Express5800 SIGMABLADE/120Bb-6 is a standard blade server designed to run applications requiring local hard drives. Engineered with virtualization in mind, the 120Bb-6 blade server includes two 1000BASE-X ports, an SUV connector, and an Intel 5000P chipset.

Best for: Midmarket companies and enterprise branch offices.

- Quad-core Intel Xeon processors
- Up to 16GB of memory
- Two hot-plug 2.5-inch SAS hard drive bays supporting RAID 0/1
- Two 1000BASE-X ports

(866) 632-3226 | www.necam.com




NEC Express5800 SIGMABLADE/120Bb-d6 Diskless Blade Server

The NEC Express5800 SIGMABLADE/120Bb-d6 is a highly modular, diskless blade server ideal for virtualization solutions at the lowest possible cost.

Best for: IT managers looking to optimize virtualization and power consumption.

- Quad-core Intel Xeon processors
- Up to 48GB of memory
- Two 1000BASE-X ports
- Fibre Channel SAN boot

(866) 632-3226 | www.necam.com




NEC Express5800 SIGMABLADE/B120a Blade Server

The NEC Express5800 SIGMABLADE/B120a features enhanced memory performance, including Intel's Quick Path Interconnect technology to increase performance and DDR3-1066 memory support for faster access. Utilizing the Intel Xeon 5500 series, the B120a blade server features a two-socket blade, application compatibility, and multiple configuration options. Other facets, such as integrated system management, Fibre Channel bandwidth expansion, and the modular design, offer greater functionality.

Best for: IT managers seeking increased performance and reduced power consumption.

- Higher throughput performance
- Maximum memory configuration of up to 64GB
- Expansion of up to six 1Gb I/O ports per blade
- Allows for server consolidation and overall reduced power consumption
- EXPRESSBUILDER software includes OS installation utilities

(866) 632-3226 | www.necam.com



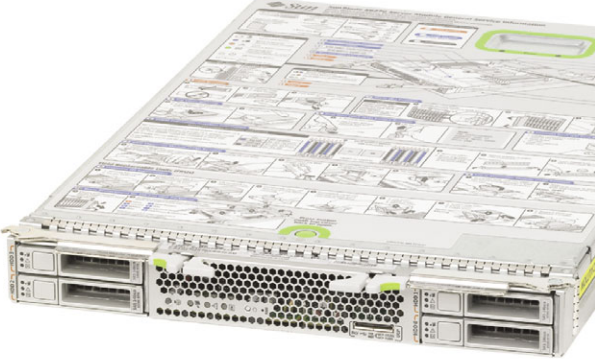
Sun Blade X6270 Server Module

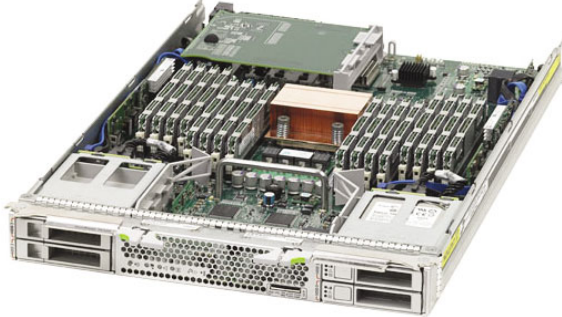
Designed for enterprise data centers of all sizes, Sun Microsystems' Sun Blade X6270 server module with the latest Intel Xeon 5500 series processors is ideal for server virtualization, enterprise applications, and consolidation. Constructed with scalability in mind, the X6270 server module offers up to 144GB of memory via 18 memory slots for 1,333 and 1,066MHz DDR3 DIMMs.

Best for: Enterprises that want to utilize business application virtualization.

- Designed for memory-intensive applications with up to 144GB of memory
- All-in-one virtualization solution, including server and network, when combined with Sun Virtual Network Express Module
- Up to two quad-core Intel Xeon 5500 series processors (8 cores/16 threads) per server module
- Double the I/O capacity of competing blades and rackmounts
- Up to four hot-swappable hard disk drives or solid-state drives
- Features four PCI Express 2.0 interfaces (through a passive midplane)

Starts at \$2,136
(800) 786-0404 | www.sun.com





Sun Blade T6320 Server Module

Powerful enough to run everything from back-office applications to Web services, the Sun Blade T6320 server module with the Solaris 10 operating system is designed for fast deployment and maximum eco-efficiency, making it highly adaptable to changing data center needs.

Best for: Data centers looking to increase deployment rates and go eco-friendly.

- Up to 64 simultaneous compute threads per module with four- or eight-core UltraSPARC T2 processor powered by Chip MultiThreading technology
- Increase application response times and reduce energy consumption with flash-based solid-state drives
- Built-in, no-cost virtualization technology with Logical Domains and Solaris Containers
- Hot-swappable disks and no fans or power supply units on the blade
- Up to 79% greater performance, two times more core density, and three times more disk storage than competitive blade servers

Starts at \$9,520
(800) 786-0404 | www.sun.com

PRODUCT RELEASES

Do you have a new product that data center/IT managers would be interested in learning about?

Send your press release or related product information to press@processor.com.



CLIENTS

■ Borland Software Silk 2009

Borland Software announced a QA (quality assurance) tool called Borland Silk 2009, designed to support the testing needs of both Agile and traditional development teams by simplifying testing activities, increasing the speed of test execution, and integrating with a customer's existing test tools and frameworks to provide a consolidated view of quality across the software delivery life cycle. Features include Silk-Test, which lets developers create and automate tests in a Java environment; SilkPerformer for load and performance testing; and SilkCentral Test Manager for managing quality and testing activities.

■ Chip PC EX-PC XPD4741

Chip PC released the EX-PC XPD4741, a Windows Embedded Standard 2009 thin client. The EX-PC XPD4741 includes an Intel Atom CPU and Xcalibur Global management software, which allows for complete policy-based remote control of the EX-PC XPD4741 from a central location via inventory status, session management, and integration with Active Directory. Featuring a small footprint and low power usage, Chip PC says the system is specifically designed for server-based and desktop virtualization settings, supporting PXE boot, multiple DVI LCD screens, and optional internal wireless solutions.

■ Dell Energy Star 5.0-compliant Desktops, Workstations & Portable Computers

Dell unveiled a line of Energy Star 5.0-compliant desktops, workstations, and portable computers. Dell's OptiPlex, Precision, and Latitude product lines will have select configurations that are Energy Star 5.0-compliant. This may help save money and reduce CO₂ emissions, because many of the desktop, workstation, and portable computers produced by Dell consume less than 5W in a low-power mode, which is beyond current efficiency levels set by the EPA.

Honeywell

■ Honeywell Dolphin 9900 Series & 9951

Honeywell announced enhancements, including the availability of Windows Mobile 6.1, for all models in its Dolphin 9900 product line. It also announced the Dolphin 9951 mobile computer, which features support for long-range bar code scanning. The 9951 also features an ergonomic pistol grip and Shift-PLUS power management technology that ensures 10 or more hours of battery life, the company says.

■ Kyocera Mita America FS-1128MFP, FS-1028MFP/DP & FS-1028MFP

Kyocera Mita America released three 30ppm multifunctional printers that feature 1,200 dpi resolution and compliance with Energy Star guidelines. The company

says the FS-1128MFP (\$1,371), FS-1028MFP/DP (\$1,181), and FS-1028MFP (\$1,077) models are ideal for small to medium-sized enterprises and shared workgroup settings. All three printers include a 250-sheet paper drawer and 50-sheet multipurpose tray. The FS-1028MFP/DP and FS-1028MFP provide network printing, copy, and color scanning, and the FS-1128MFP adds fax abilities. The printers support KMnet Admin and KMnet Viewer network and management utilities and include PDF Direct Print ability to send PDF files directly to the printers. The printers also come with a USB host interface to give users print-from and scan-to abilities in PDF, TIFF, and XPS.

■ Kyocera Mita America TASKalfa 750c

Kyocera announced the availability of its color multifunctional product, the TASKalfa 750c. The 750c offers high-speed color printing, copying, scanning, and optional faxing. It can print up to 75ppm for black-and-white copies and features a 10.4-inch color touchscreen control panel.

■ Lexmark RFID Solution

Lexmark announced improvements to its RFID UHF (ultra high frequency) technology, which is engineered to replace drawers and be an add-on accessory for the Lexmark T654 monochrome laser printer. The RFID UHF Option offers up to 20ppm in RFID mode, which results in quicker printing of RFID label media. Additionally, RFID tags can be positioned in both vertical and horizontal angles on the print media, and it supports media from 5 x 7 inches to 8.5 x 14 inches. Finally, the RFID UHF features a radio and antenna built into the printer option, which allows Lexmark T654 owners to upgrade their T654 into an RFID-enabled tool.

■ Oracle Coherence 3.5

Oracle released an in-memory data grid solution, Oracle Coherence 3.5. A component of Oracle Fusion Middleware, Coherence 3.5 provides tera-scale support to in-memory data grids through configurable off-head storage. Version 3.5 uses Coherence Guardian, a safeguard that automatically detects and corrects service disruptions, and provides native integration with Oracle WebLogic Server and Oracle WebLogic Portal.



■ Quest Software SharePlex For Oracle

Quest Software announced the latest version of its real-time database replication solution, SharePlex for Oracle. SharePlex supports high availability, reporting, data movement, and application integration on Oracle databases. SharePlex's features include wildcard support, batch processing, and configuration management enhancements to SharePlex's monitoring and management dashboard, called the SharePlex Manager.

■ SunGard Aligne Data Management Toolkit

SunGard introduced its latest suite of energy data management tools for Aligne, which is a multicommodity software offering that helps energy companies manage data and trading, risk, credit, fuels procurement, emissions compliance, back-office, treasury/finance, and management information needs. The SunGard Aligne DMT (Data Management Toolkit) lets users process, analyze, and leverage energy information from across the enterprise to make qualified and informed decisions. Aligne DMT features an intuitive Web-based interface, a charting tool for data visualization with 3D charts, and a drag-and-drop formula tool.

■ Sun Microsystems OpenSSO Express 8.0 & OpenDS Standard Edition 2.0

Sun announced updated versions of OpenSSO Express and Sun OpenDS Standard Edition software to update key components of the open-source identity management portfolio. OpenSSO Express 8.0 provides open Internet-scale security for .NET and Java-based applications as well as SaaS application in a cloud environment. OpenSSO Express 8.0 provides a mobile one-time password, which allows two-factor authentication out of the box without the need for a third-party product. In addition, OpenSSO Express 8.0 also includes Fedlet support for .NET applications and rapid Salesforce.com federation. With Sun OpenDS Standard Edition 2.0 software, customers benefit from better performance and scalability for large-scale deployments. Version 2.0 offers an easy-to-use management console and delivers 10 times better write performance.

MESSAGING & TELEPHONY

■ BigBand Networks Converged Video Exchange

BigBand Networks announced CVEx (Converged Video Exchange), an intelligent software control plane designed to deliver and manage linear and nonlinear video services across the network edge. CVEx is designed to bring increased efficiency of spectrum across applications and provide a migration path for next-generation technologies. CVEx includes the ability to dynamically control the allocation of all RF and IP video services within a single bandwidth pool and provides a unified view into service usage and resource utilization via a single control plane. Other features include a common interface, pooled and reallocated bandwidth (as needed), and subscriber and video service measurement tools.

■ MX Logic Control Console

MX Logic announced enhancements to its Control Console and other tools in its SaaS portfolio. Control Console's enhancements are designed to make email and Internet security management faster and easier, with a more streamlined look and greater support for languages. Other MX Logic products to receive updates include new Outlook integration, instant backscatter abatement, and improved Web protection. All enhancements are available to existing customers for no additional fee.

■ Nortel Communications Server 1500

Nortel announced the latest release of its Communications Server 1500. Its features will allow carriers to be more efficient by taking advantage of remote upgrades and introducing billing, operations, administration, and maintenance

capabilities. The server utilizes SIP business trunking and offers a single broadband connection with both voice and data traffic to SMEs with onsite PBXes. Other features include remote upgrades, hunt group queuing, contact center operability, and a standard service profile with graphical user interface.

■ Nortel Communication Server 2000 Softswitch (CVM13) & Adaptive Application Server SIP Software Engine (A2E 7.0 SP1)

Nortel introduced the latest versions of the Nortel Communication Server 2000 softswitch and the Nortel Adaptive Application Server SIP software engine. Some of the offerings' features include a Personal Agent Web-based portal; an enhanced Personal Communicator PC client with a new user interface; Open Programmability Interfaces that let subscribers enable Web applications to send status or warning messages via mobile phone; and SIP Business Trunking enhancements, such as support for existing PRI trunking capabilities via SIP. The updated Nortel Communication Server 2000 softswitch and the Nortel Adaptive Application Server SIP software engine will be available in the third quarter of this year.

■ Patton & Centile Unified Communications

Patton and Centile partnered to offer unified communications solutions for large enterprises. The companies say the interoperability between Patton's SmartNode VoIP gateways and Centile's IntraSwitch VoIP application software offers rapid deployment for enterprises transitioning to unified communications networks. IntraSwitch supports IP Centrex, business trunking/VoIP VPN, Hybrid iPBX, premise-based IP PBX, and residential VoIP. It also provides interactive voice responses, automatic call distribution, conferencing, presence management, instant messaging, video, and service creation APIs.

■ WizeHive SaaS-based Collaboration Platform

WizeHive added new features to its SaaS-based collaboration platform, including quicker speeds and an increase in the amount of data that can be shared. A better UI makes it easier to track and control large amounts of shared files, and the file management and version control have gotten a boost, as well. Additionally, users can now upload up to 50 files at one time, and the maximum uploaded size has been increased to 100MB. Customers can also integrate Twitter and email more easily as well as populate and control notes, tasks, or files using typical communication tools in workspaces.

NETWORKING & VPN

■ Apparent Networks Fix It Now Program

Apparent Networks announced details of a Fix It Now program the company designed to give immediate assistance to network managers who face network problems and troubleshooting issues. The program is free and includes a 30-day download of PathView as well as a consulting session with a PathView expert. Apparent Networks says that in addition to delivering applications over distributed multiple-party network environments, PathView can troubleshoot distributed WAN, MPLS, carrier, and cloud-based service issues up to 70% faster; assess the readiness of networks for VoIP, video, and other latency-sensitive apps; and

PRODUCT RELEASES

monitor and report network performance in real time for a company’s own networks and their carriers and service providers.

■ FrontRange Solutions
SAM Analyzer

FrontRange Solutions announced the launch of SAM Analyzer, an online tool to help companies assess their approach to SAM (software asset management). The test is composed of 10 questions about topics such as complete audits, centralized procurement, and how applications are deployed. Results of the test will highlight both strengths and weaknesses and provide organizations with advice on how to improve. Ideally, SAM Analyzer will help companies reduce costs while ensuring compliance.

■ Fujitsu 24- & 48-Port
Ethernet Switches

Fujitsu unveiled its aggregated series of 24- and 48-port 1Gb-10Gb Ethernet switches, specifically the XG0224 and XG0448. Each expansion to the family fully integrates with the existing Ethernet streams and offers a unified storage solution



for leveraging RELDATA. Unique features include high throughput, low latency, low failure rates, auto-sensing 10/100/1000 Base-T with four ports of SFP optics, and a 1U form factor.

■ GFI MAX For MSPs

GFI released the GFI MAX for MSPs (managed service providers), VARS (value-added resellers), and IT support. GFI MAX is a remote management software solution that offers real-time monitoring, health checks, asset tracking, patch management, and client reporting. Other benefits include 24/7 client service monitoring, customized system branding, and easy setup.

■ IBM Systems Director
VMControl

IBM unveiled IBM Systems Director VMControl, which is engineered to assist with planning, building, and maintaining data centers while also reducing costs. It provides lifecycle management of virtual servers, and it has the ability to build, change, and erase virtualized resources as well as relocate them. VMControl offers automatic discovery, along with monitoring and updates for physical and virtual resources as part of the IBM Systems Director family of software for the management of IBM servers, storage, and networking. Additionally, IBM has introduced an upgraded path to its new servers that will incorporate POWER7 micro-processors designed to help customers guard their long-term investments in Power Systems.

■ Ipswitch WhatsUp Gold v14.0,
Flow Monitor v2.0

There has been a major overhaul of the WhatsUp Gold network management product, which is now in version 14.0 (\$795). Touted as easy to use but powerful, the software has many enhancements, such as a speed boost and IPv6 support. Ipswitch also announced version 2.0 of its WhatsUp Gold Flow Monitor plug-in (starts at \$1,495), formerly called Net-Flow Monitor. Ipswitch offers free trials of both.

■ Rackspace Hosting
Private Cloud

Rackspace Hosting released Private Cloud, which it says lets users run a centrally managed VMware virtualization platform in dedicated private hardware settings. Rackspace says that although multiple-tenant cloud solutions are flexible and affordable, they don’t always meet the needs of every segment. The single-tenant Private Cloud, however, provides more control and security while still offering scalability, flexibility, and resource optimization, Rackspace states. Configurations of Private Cloud range from 16 to 35GHz processing power, 16 to 32GB memory, and 100GB FC SAN/250GB SATA SAN to 500GB FC SAN/500GB SATA SAN.

■ RF Code Asset Manager

RF Code announced the newest version of its physical asset management solution, Asset Manager. The solution



provides real-time tracking, monitoring, alerting, and managing of assets throughout their life cycles. Features include Calculated Fields, which allows users to continually compute or derive new asset data from existing information; Remote Store and Forward, which ensures high data availability across remotely managed sites; Up Connect, which enables customers to safely manage their remote assets and service providers to manage their customers’ remote assets via the Internet; and Graphical Map Views that provide visual navigation of different asset locations within a customer’s organization.

■ Riverbed Technology Steelhead Mobile

Riverbed Technology released Steelhead Mobile features, including SMC-VE (Steelhead Mobile Controller Virtual Edition) and latency optimization. The Steelhead Mobile Controller Virtual Edition increases application acceleration and is deployed on the RSP (Riverbed Services Platform), a part of the Steelhead appliance. The Steelhead Mobile Controller can manage 4,000 appliance licenses. Riverbed also announced improved capabilities for application layer Lotus Notes mobile acceleration.

■ SAP AG Feature Pack 2.0
For Business ByDesign

SAP AG released feature pack 2.0 for SAP Business ByDesign. Designed for midsized companies, SAP Business ByDesign is an on-demand tool to help customers gain a higher degree of visibility across their enterprises in order to make more informed business decisions. The on-demand delivery model of SAP Business ByDesign helps reduce overall operational IT costs associated with infrastructure, equipment, and software management. The feature pack 2.0 for SAP Business ByDesign expands functionality and provides more value to customers by offering business support for 35 end-to-end process scenarios. For example, through the integration with software from the SAP Business-Objects portfolio, executives of midsized companies can benefit from increased transparency into their business operations and utilize analytics to make decisions.



■ Stonesoft StoneGate
SSL-1030

Stonesoft unveiled its latest VPN appliance, boasting two-factor authentication support straight from the factory. The StoneGate SSL-1030 is geared toward organizations with up to 100 concurrent mobile users as well as toward MSSPs. Using the company’s latest SSL 1.3 security, the SSL-1030’s security capabilities include versatile authentication using open standards, advanced single sign-on support, and fine-grained traceability and traffic recording.

PHYSICAL INFRASTRUCTURE

■ Adder Command & Control Switch
(CC4USB)

Adder announced a tool that will give a single operator control over four connected computers by switching keyboard and mouse control between the computers. The Command & Control Switch (CC4-USB) is designed to keep peripherals attached to each computer working while the mouse and keyboard switch over. It works with the Adder RC4 remote control, and the switch employs Adder’s USB True Emulation technology, which allows it to instantly connect to virtually any USB device.

■ Aten CC2000 Control Center
Over The NET

Aten released the CC2000 Control Center Over the NET management software that makes up part of the CITIMS (Centralized IT Infrastructure Management Solution). Featuring one master and 31 slave servers, the CC2000 provides one portal for centralized management for all devices the Altusen Over The NET and Power Over The NET products manage. Aten says the master-slave nature guards data sent using built-in redundancy factors, including automated database backup of master, slaves, and devices and real-time database updating. If any CC2000 server goes down, redundancy ensures the management system continues to operate, as a slave will take over functions. Security features include internal and external authentication with tightly configured user authorization. Aten is offering an online virtual operation of the CC2000 Management Software and KN4140v KVM Over the NET to try out.

■ Cyber Switching
Dualcom S Series

Cyber Switching released the Dualcom S Series with temperature and humidity monitoring aimed at environmentally friendly data centers. The device includes an external temperature and humidity sensor that enables it to reduce the need for additional environmental monitoring equipment. The sensor uses the Dual S PDU to alert managers or the data center’s network operations center when equipment needs addressing due to overheating. Further, users can connect a second 15-foot temperature and humidity module to allow for readings from up to 30 feet away. Suitable for distributing power to blade servers, routers, switches, SANs, and additional rack equipment, Dualcom S devices include Cyber Breaker, which provides individual current monitoring and supplemental circuit break protection for individual outlets.

■ Emerson Network
Power Liebert PSP UPS System

Emerson Network Power introduced a Liebert PSP UPS system, which is engineered for professional workstations, point-of-sale terminals, and other undersized yet important office equipment that is vulnerable to utility power fluxes and deficient overall power quality. The Liebert PSP offers four models with different capacities, including 350VA, 500VA, and 650VA. The Liebert PSP can provide more than four minutes of backup power at full load once the utility power is lost, and there are early warnings when the UPS is starting to shut down through the Liebert MultiLink software that comes with Liebert PSPs.

■ Minicom AccessIT

Minicom’s AccessIT open-platform access management solution supports remote access to VMware virtual servers. AccessIT features include access protocol efficiency, central management, vendor lock-in, interface uniformity, and KVM switch recycling. Minicom and VMware AccessIT administer IP cameras, firewalls, console servers, environmental controls, printers, routers, PDUs, virtual machines, and servers. AccessIT also supports HTTPS, XML, and SSH protocols, Internet Explorer 6 and later, and Firefox 3.

■ Para Systems Minuteman RPM 1521

Para Systems released the Minuteman RPM 1521, a two-outlet IP-addressable device that lets users remotely manage power from anywhere and is suitable for remote offices in which IT managers and tech personnel aren’t on staff. Designed to reduce service calls from technicians, the Minuteman RPM 1521 includes an easy-to-use interface that lets users send commands via Web browsers to turn power on and off to reduce downtime and quickly fix equipment lock-ups. The Minuteman RPM 1521 is designed for use with security systems, phone/VoIP systems, servers, and network peripherals. Each receptacle can be individually monitored and managed. Further, receptacles provide protection against surges and spikes. An auto-ping feature, monitors and auto-detects if attached equipment is available. When a response isn’t detected, the Minuteman RPM 1521 notifies administrators.



■ RLE Technologies FDS-Wi

RLE Technologies released the FDS-Wi, a wireless device the company says is designed for integration with facility monitoring and management systems. Designed to reduce the installation costs related to hard-wired sensors and systems, the FDS-Wi includes 418MHz and 900MHz radio receivers that can receive signals from transmitters picking up temperature, humidity, motion, power, dry contact, analog (4 to 20mA), 0 to 5VDC, and 0 to 10VDC signals. Signals are integrated to monitoring systems via SNMP, Modbus TCP/IP, Modbus RTU, and BACnet/IP. RLE says the FDS-Wi can receive signals from up to 100 feet of open air space via the 418MHz frequency and up to a quarter mile of open air space with the 900MHz.

PRODUCT RELEASES

Continued from Page 13

■ Server Technology CS-36VD/VY

Server Technology released the CS-36VD/VY, a 3-phase, mixed-outlet CDU (cabinet power distribution unit) with 12 IEC C19 outlets and 24 IEC C13 outlets. The 208V Smart CDU can deliver 18kW (at 50A) and 21.6kW (at 60A) of power to the rack, and with local and network power monitoring and environmental monitoring via IP, it provides reliable power distribution. The network interface can be used to view power, temperature, and humidity levels via your Web browser, or you can receive SNMP-based alarms and email alerts when conditions exceed defined thresholds. The six local current monitors, each positioned alongside its corresponding branch circuit consisting of two C19s and four C13s, can be inverted via the Web GUI or serial interface to satisfy overhead or floor-fed power.

SECURITY

■ Addonics Technologies CipherChain

Addonics Technologies announced CipherChain, an encryption tool designed to provide protection for technology such as personal computers, servers, rack-mounted systems, and data storage equipment. The AES 256-bit hardware full-disk encryption tool is roughly the size of a flash drive. To help companies encrypt legacy systems or systems in a heterogeneous computing environment, CipherChain can operate on any operating system. CipherChain is designed to be simple to use, with no software, drivers, or passwords to deal with. It is designed to work with any SSD or SATA storage device.

■ Astaro Security Gateway & Audit

Astaro announced that it is offering a free business audit and forensic analysis for small enterprises to demonstrate what spyware and malware penetrates a company's spam filter. The Astaro Security Gateway will be deployed behind the company's filters for 14 days and record everything the filter misses and block anything it catches. The audit is designed to help small enterprises recognize flaws in their security and amend their network accordingly.

■ DCB SM-56 Security Dial-up Modem

DCB released the SM-56 Security Dial-up Modem, which is designed for NERC CIP security perimeter dial-in. Available in metal enclosure, standalone, or rack-mount configurations, the SM-56 Security Dial-up Modem features comprehensive activity logging, passphrase authentication, a secure AES encrypted connection, and statistics logging. It includes an RS-232 serial port, a V.92 modem port, and a 100BaseT port. Secured connections use an AES encryption algorithm for configured SM modems. Other general specifications include a DE-9P connector, speeds up to 115.2Kbps, and multiple high-security modes.

■ NitroSecurity Application Protocol Monitor

NitroSecurity announced that its content-aware SIEM platform now comes with NitroView APM (Application Protocol Monitor), which lets customers use the NitroView ESM to address data leakage and threat and fraud detection as well as monitor the content of document types and application transactions in real time over the network. The NitroView APM is designed to work with NitroView ESM X5, which is a new category of SIEM called Content-Aware. This allows for real-time security event

logging and management through a dedicated half-terabyte RAM array.

■ Q1 Labs QRadar Log Manager

Q1 Labs released the QRadar Log Manager for management automation, reporting, and log administration. QRadar supports full SIEM capabilities and meets government regulations such as PCI DSS, NERC, HIPAA, and Sarbox. New functionality includes real-time logging, historical searching, log aggregation, security forensics, asynchronous log searches, scalable architecture, and system operation advancements. The QRadar Log Manager starts at \$31,000.

■ Quantum Scalar Key Manager Appliance

Quantum unveiled its Scalar Key Manager Appliance, which is an encryption key management platform ideally suited to midrange and enterprise customers. The offering is designed to work seamlessly with Quantum's Scalar series of tape libraries. It also enables users to set an initial encryption policy and then let the Scalar Key Manager Appliance generate, maintain, and synchronize keys to keep track of encrypted tapes. This way, users don't need to focus too much attention on data retention. The Scalar Key Manager Appliance features LTO-4 encryption, high-availability key management, the ability to manage encryption across multiple Quantum tape libraries, and the ability to import and export keys.

■ RSA SecurID Software Token For iPhone

RSA released its SecurID Software Token for the iPhone. The software enables an iPhone to be used as an RSA SecurID authenticator, providing convenient and cost-effective two-factor authentication for enterprise applications and resources. It is designed to generate a one-time password that changes every 60 seconds, enabling secure access to enterprise applications and resources. The application is available free in the App Store.

■ SafeNet eSafe SmartSuite Secure Gateway

SafeNet released eSafe SmartSuite Secure Gateway for Web and mail protection and control. The gateway platform is designed to combine intelligent protection, ease of use, and value-focused management and reporting. eSafe SmartSuite offers real-time, intelligent inspection of all inbound and outbound Web and mail traffic while delivering performance and scalability. The suite also improves productivity and management visibility and enhances security decision-making capabilities via monitoring, trend analysis, and reporting functionality. Key to eSafe SmartSuite is its DLP (data leakage prevention) solution that delivers pragmatic data-aware monitoring, which provides detection and control of risks surrounding sensitive data in motion.

■ Sunbelt Software CWSandbox

Sunbelt Software announced version 3.0 of CWSandbox as well as the availability of its Exploit Feed, which is a new component to the Threat Track data service. CWSandbox is an automated behavior analysis tool for the automatic detection of malware. Version 3.0 gives researchers the ability to compare multiple analyses for differences and similarities and allows them to send malware samples to multiple sandbox configurations and centrally manage the process. The Exploit Feed provides customers with accurate and up-to-date feeds to help identify and propagate to researchers the latest malicious URLs and malware. Both

offerings rely on SunbeltLabs, the malware research and analysis division of Sunbelt Software.

TippingPoint

■ Tipping Point Emergency Response Service

Tipping Point announced its Emergency Response Service, a complimentary service the company says will provide network managers access to Tipping Point's IPS (Intrusion Prevention System) and assist organizations with addressing the impact that cyber attacks, viruses, and other security risks pose to network security. In the event that a company is attacked, it can use the Emergency Response Service to receive onsite deployment of IPS within 72 hours, with the IPS immediately beginning to monitor traffic and proceeding to protect the network from attacks and vulnerabilities. Features include proactive blocking of malicious content from reaching network destinations; fast, easy deployment; and enterprise-wide protection.

SERVERS

■ Sun Microsystems Enhanced SPARC Enterprise Servers

Sun Microsystems launched the latest versions of its chip multithreaded SPARC Enterprise server line, which supports 1.6GHz UltraSPARC T2 and T2 Plus processors and the latest version of Logical Domains virtualization software. Sun's CMT servers and the Solaris OS deliver improved virtualization and compute performance and make it easier for users to manage the platform. Logical Domains 1.2 brings with it new built-in configuration tools, CPU power management, support for jumbo frames, automatic logical domains backups, and more. The SPARC Enterprise servers with 1.6GHz processors are available starting at \$33,339.

STORAGE

■ 3PAR Cloud-Agile

3PAR announced the Cloud-Agile program, an initiative designed to promote the adoption of cloud computing and cloud-based services offered by leading providers with infrastructures powered by 3PAR Utility Storage. Participants in the program include Attenda, DataPipe, Terremark, and Verizon Business. The program is designed to help companies handle unpredictable growth, control costs, accelerate book-to-bill cycles, assure service levels, and efficiently deliver value-added services.



■ Cisco IBM System Z Mainframe Storage Environments

Cisco launched an updated version of its IBM System z mainframe storage environments, enabling customers to take advantage of greater security control and faster data traffic over greater distances. The Cisco MDS 9000 family of Multilayer Directors now offers faster data traffic over distance with Cisco XRC Acceleration, is capable of securing data traveling outside

the data center with Cisco TrustSec Fibre Channel Link Encryption, utilizes the Cisco Input/Output Accelerator to enable cost-effective data backup and disaster recovery solutions, and the Cisco SAN Fabric Manager increases the number of devices that can be managed by Fabric Manager (up to 15,000 devices and up to 10 nodes).



■ Dynamic Solutions International DSI3600

Dynamic Solutions International announced its latest enterprise flash-based SSD system. The DSI3600 gives the data center up to 5TB of storage space and can foster data access at up to 250,000I/Ops, the company says. The DSI3600 uses only 325W to deliver this level of performance and capacity, which has a direct effect on reducing cooling costs in the data center. It is expandable through 4Gbps Fibre Channel and supplies LUN (logical unit number) provisioning management and WWN (world wide name) masking.

■ EMC Retrospect 8.1

EMC unveiled the latest release of its EMC Retrospect trusted backup and recovery software for the Mac platform. Compared to the last release, EMC Retrospect 8.1 is now capable of better performance on Intel-based Macs. Other performance improvements were made to backup, data verification, and restore activities. EMC Retrospect 8.1 is currently available in English only, with localized language editions becoming available later this year. Features present in version 8.0 and 8.1 include a customizable user interface with remote management capabilities, a powerful engine capable of multiple simultaneous operations, (disk-to-disk-to-disk) D2D2D and (disk-to-disk-to-tape) D2D2T backups, simultaneous streaming of data to multiple disk or tape storage systems, and certified AES-256 encryption of backup data. The Retrospect 8 Desktop 3-User license is available starting at \$129 or \$59 for an upgrade from the 5.x and 6.x Desktop editions, respectively.



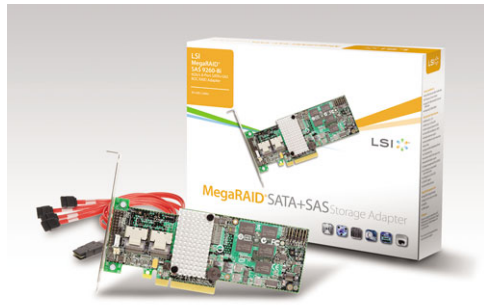
■ Intel X25-M

Intel announced it has moved production of its X25-M NAND flash-based SSD from a 50nm to a 34nm manufacturing process. The move helped Intel realize improvements in write speed and in latency, the latter of which drops by 25%. In addition, the process has facilitated lower channel pricing—80GB for \$225 and 160GB for \$440. The MLC NAND device comes in 2.5- and 1.8-inch form factors with a SATA interface.

■ LSI MegaRAID 9200 Series

LSI released 6Gbps SAS/SATA RAID controller cards. The x8 PCI-E cards feature the company's MegaRAID Storage Manager software, the LSI SAS2108 RAID-on-chip, 512MB of DDR2-800 cache memory, and performance of up to

PRODUCT RELEASES



2.88Gbps reads and 1.87Gbps writes, according to the company. They carry up to eight internal or external ports.

■ Quantum esXpress Software Module

Quantum released its Quantum esXpress software module, which is designed to deliver optimized backup for VMware servers via Quantum's DXi-Series disk backup and replication systems. The esXpress module and the DXi-Series systems deliver WAN-based replication and automated file replication to remote disaster recovery sites. The offering is also capable of shortening backup windows and enabling a policy-based installation and configuration. DXi-Series systems each include a copy of esXpress Professional, which supports one VMware ESX server and up to four virtual backup appliances. Customers can purchase additional esXpress Professional licenses starting at \$950 or upgrade to esXpress Enterprise and support for up to 16 VBAs per ESX server starting at \$1,850.

■ Sans Digital EliteSTOR ES104T+, ES104T+B

Sans Digital announced its EliteSTOR ES104T+ (silver)/ES104T+B (black)



storage rack mount. It uses PSUs certified with the 80 PLUS logo, and Sans Digital says this certification means that the storage system could save the enterprise up to 10% on electricity when compared to models with less-efficient PSUs. The ES104T+ is a 1U, 4-bay unit with support for 3Gbps SAS/SATA 3.5-inch drives of up to 2TB.

■ TOLIS Group BRU Server 2.0

TOLIS Group released the latest addition to its BRU Server line, the BRU Server 2.0 network backup solution. TOLIS Group indicates that version 2.0 is more responsive, more flexible, more user-friendly, and capable of supporting networks on Windows, Mac OS X, Linux, Solaris, and other Unix platform systems. The major enhancements include a re-designed BRU Server Management GUI; client-level, user-initiated backup and restore functions; and an optional encryption module add-on for encrypted backups using any archival hardware. The company says archives are backward-compatible with all previous BRU Server versions and, as with previous versions, are also recoverable by any BRU product, on any platform BRU supports.

■ Western Digital Scorpio Blue Mobile Hard Drives

Western Digital released two mobile hard drives. The Scorpio Blue drives have a 12.5mm form factor and use 333GB-

per-platter technology. The drives come in 1TB and 750GB capacities. The 1TB model is the highest-capacity 2.5-inch drive on the market. Both WD Scorpio Blue drives deliver a 3Gbps transfer rate, and they are best suited for use in portable storage solutions, such as the newly released My Passport Essential SE Portable USB drives, select notebooks, and select small form-factor desktop PCs.

■ Zmanda Cloud Backup Solution

Zmanda announced that it will introduce a major update to its Windows-based Zmanda Cloud Backup solution. The

upgrade will include support for the backup of MySQL applications to storage clouds and major performance enhancements. One of the key elements of the upgrade is that users have the ability to select the specific geography where data is to be stored for disaster recovery purposes while at the same time complying with local data retention requirements. Another improvement is the inclusion of selective backup, which enables users to recover individual files from a large directory rather than having to restore the entire directory. It also offers hard-coded communication-side encryption using secure socket layer.

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would be interested
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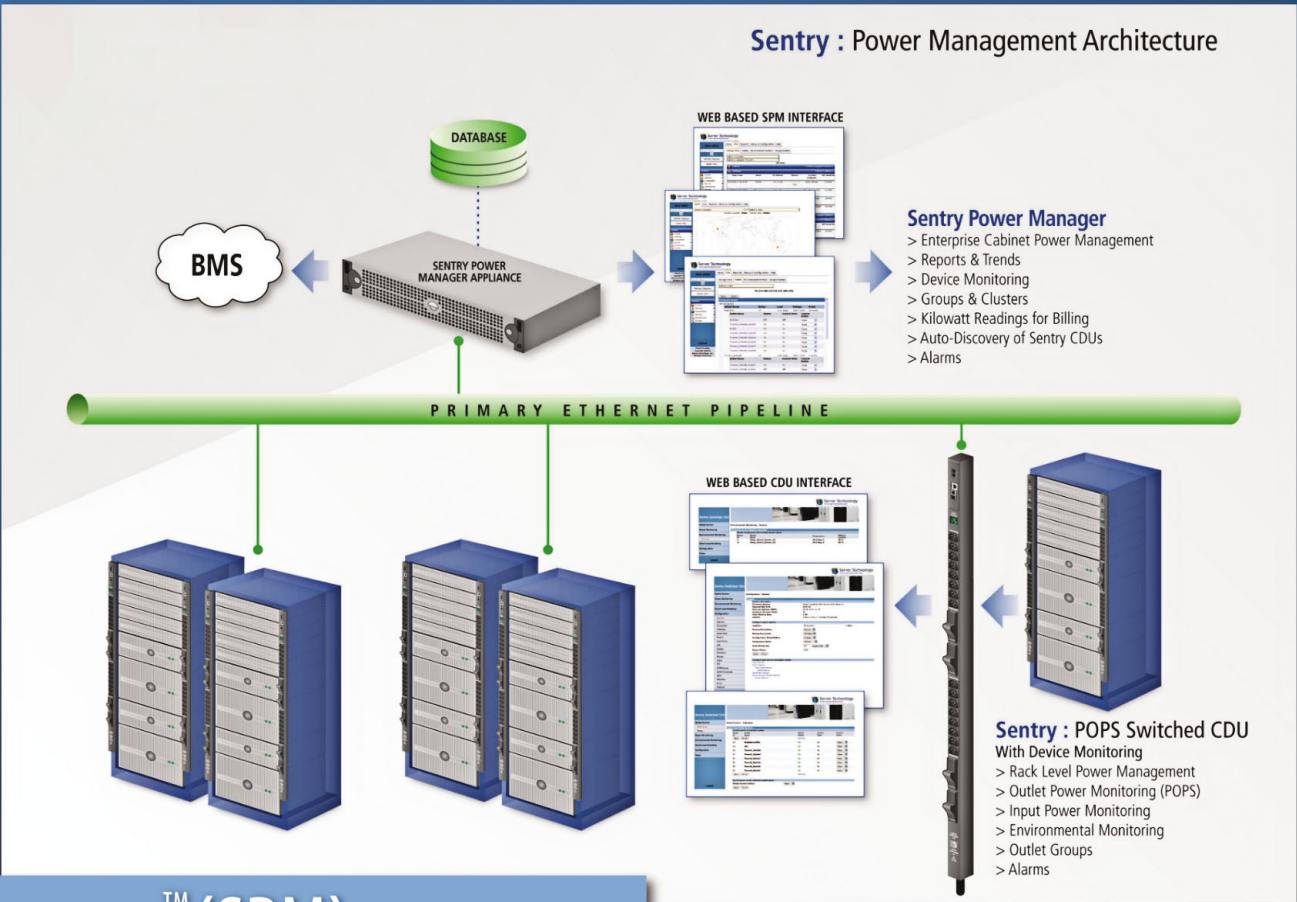
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Federal IT Spending Forecast Shows Growth In Cloud Computing, Security

A recent study from Input projects that the total contracted federal IT market is growing at a five-year CAGR (compound annual growth rate) of 3.5%, and the market for outsourced application and infrastructure services will expand by 3.8% CAGR over five years.

Despite the current economic climate, Deniece Peterson, principal analyst and industry analyst at Input, says, “It’s important to note that technology is a major element of many of the [Obama] administration’s top priorities, such as green IT and health IT. Technology is an enabler of the policy priorities, and this administration is establishing itself with a ‘spend-to-save’ approach that provides new opportunities.”

Cloud Computing Growth

In particular, Input found cloud computing was growing at an explosive CAGR of 27%, which significantly outshines the 3.3% CAGR for overall technology spending. Peterson says, “This is being driven by the incremental



successes already occurring with cloud computing in government as well as the administration’s stated goal of using cloud computing as a major element in overhauling the federal technology infrastructure.”

Input found that the federal health IT growth rate will increase because of spending in policy-making areas, such as the Office of the National Coordinator For Health IT, Department of Defense, Veterans Administration, and Health and Human Services. “Keep in mind that most of the health IT public sector spending is at the state and local level,” says Peterson.

Spending on cybersecurity will also increase; Input forecasts that federal information security will grow by 8% CAGR through 2014. Cybersecurity “is being driven by the pending creation of a cybersecurity coordinator to drive the national strategy, changes to security mandates, and niche markets emerging for specialized product and service companies,” Peterson says.

The increased spending will certainly have an impact on government data centers. “The continued pressure to squeeze every bit of value out of the federal IT dollar plays directly into the ongoing data center consolidation movement. This means data center staff will need to keep their skills current to stay on top of emerging technologies,” she says.

The consolidation may also mean that there will be fewer data center staff positions, so employees should pay close attention to showing value and sound technology management practices. “Federal data center staff and their contractors will be expected to have solid plans in place and give a detailed account of how these investments translate into increased efficiency and cost savings,” Peterson says.

by Nathan Lake

Of Special Interest To:

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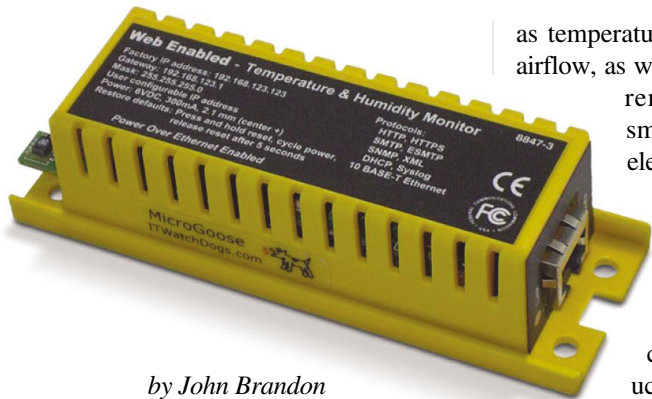
Government

Data Centers

FEATURED PRODUCT

Micro Monitors

IT WatchDogs’ MicroGoose Temperature & Humidity Monitor Costs Little & Can Save A Lot



by John Brandon

COMPLEX CLIMATE CONTROL SYSTEMS are not usually found in companies with just a few hundred employees. In fact, although the HVAC systems in a data center might have some external controls and sensors, they are rarely tied into servers for temperature monitoring and automatic alerts. IT WatchDogs’ new MicroGoose, a low-cost, Web-enabled indoor climate monitor, is designed to monitor temperature and humidity levels in a server room or data center. The product provides alerts that can be sent to up to five email accounts and up to two SNMP managers. For example, you might send an alert at one user-defined temperature threshold to two people and then send another alert at other escalating temperatures or humidity levels to a different set of recipients.

MicroGoose is part of a product line designed for the SME market. Gerry Cullen, the founder of IT WatchDogs (512/257-1462; www.itwatchdogs.com), created the product line when he was working in Houston during a cold weather spell. One Friday afternoon, employees at his place of work thought it would be a good idea to raise the thermostat’s temperature setting because it was getting cold, but forgot to lower the setting when they left for the day. The weather turned warm and the heat kept rising during the entire weekend, and it ended up costing the company about \$100,000 in damages to servers and other equipment in the server room. Cullen realized there was a place for low-cost climate monitoring and alert equipment and eventually formed IT WatchDogs.

The original product, the WeatherDuck, is a palm-sized device that must be attached to a PC to operate but provides the same monitoring and alert features. The WeatherGoose and SuperGoose are next-generation products with embedded Web servers that IT managers install into server racks to monitor environmental variables using sensors built into the device that monitor such conditions

as temperature, humidity, light, sound, and airflow, as well as a wide variety of optional remote sensors (water sensors, smoke detectors, door switches, electrical power monitors) that can be plugged in.

MicroGoose & The SME

As the latest product in IT WatchDogs’ lineup, the MicroGoose is an entry-level product designed for smaller companies. To keep the price low, it only monitors temperature and humidity and does not use remote sensors. Instead, it is designed to monitor just one area in a small data center or server room. The MicroGoose, which is about the size of a candy bar, can be installed almost anywhere—above the rack in the ceiling, near racks, or on a 1U faceplate in the rack itself. Additionally, the MicroGoose is capable of running on PoE (Power over Ethernet) so data center managers do not need to run a power cable to the device.

MicroGoose is a good fit for an SME because of its low price (\$199) and because it does not require a complex climate monitoring infrastructure like those found in larger enterprises; instead, managers can view reports over a Web browser and receive email alerts if conditions worsen. The product is also ideal for larger data centers because it supports SNMP and can communicate with SNMP managers commonly used in data center monitoring. The MicroGoose supports SNMP v1, v2c, and v3 with security features such as commercial-grade authentication and encryption.

“Our target audience for MicroGoose is more server room-oriented than data center-oriented,” says Charlie Mayne, IT WatchDogs’ president, who took over for Gerry Cullen following Cullen’s retirement last year. “The thing that makes the product good for smaller installs is that our devices are standalone—they can serve up Web pages and send email alarms when temperature or humidity measurements are over user-defined limits. You don’t need custom software running on a computer anywhere. You can receive the email alerts on your standard email reader or have them directed to your cell phone. You can access the device with a standard Web browser (such as Firefox or Internet Explorer) to monitor the status and set threshold limits. One of the Web pages shows a historical graph of the measurements being logged so you can see trends.”

As with the larger members of the product family, the MicroGoose can be configured with optional Web cams for remote monitoring of data centers. The camera images are displayed on the Web pages.

Mayne says the MicroGoose, like the entire family of climate monitor products, uses nonvolatile memory, so settings on the device and measurement history logs will not be lost in the event of a power failure. The product is designed for “lights-out operation” so that a limited IT staff does not have to monitor the device or the server room temperatures, which is helpful for smaller data centers in which the staff is not always onsite

IT WatchDogs MicroGoose

(512) 257-1462

www.itwatchdogs.com

Description: The MicroGoose is a temperature and humidity monitoring device designed for server rooms or small data centers that offers a simple Web interface for monitoring and sends email alerts and SNMP traps when conditions reach a user-defined threshold.

Interesting Fact: In addition to the MicroGoose, IT WatchDogs’ flock of environmental monitoring devices includes the SuperGoose, the WeatherDuck, the WeatherGoose, the PowerGoose, the MiniGoose, and the MiniGoose 2.

after hours or over weekends, when heat and humidity problems can sometimes arise.

“Small companies very often do not have climate monitoring systems because they can be relatively expensive,” says Mayne. “Large, enterprise-level data centers have very sophisticated air-conditioning systems that monitor the room for climate changes. Enterprise-level climate systems are on UPS backup systems and generators, but your typical office server rooms and even smaller data centers do not have those options, so as the heat builds up, there is no way of knowing. As the room gets hotter, there will be physical damage to the servers and other equipment, which can cost hundreds of thousands of dollars and is also very disruptive to business operations.”

The MicroGoose provides flexibility because the unit’s small size and PoE capability allow it to be installed almost anywhere. As a data center grows, Mayne says, IT managers can install products from the IT WatchDogs family that use remote sensors to let managers measure a much wider variety of climate conditions and monitor many points within several hundred feet of each climate monitor host.

Latest Features

Mayne says the MicroGoose uses IT WatchDogs’ most recent generation of Web server hardware to provide the best functionality possible. The Web-based access for reporting and graphs to see heat and humidity levels and trends is accessible by either standard HTTP or the more secure HTTPS protocol. The user can download historical log data in CSV (Comma Separated Values, for importing into spreadsheets or databases) from the MicroGoose over the Internet.

Mayne says that with the next product offering, IT WatchDogs will include contact closure relays tied to the alarm system, so external devices such as strobe lights, sirens, telephone voice dialers, pumps, and auxiliary cooling systems can be activated automatically. Wireless remote sensors, Wi-Fi access, and cell phone modems are also on the horizon. ■



MicroGoose Specs

- Monitors temperature ranges from 32 to 125 degrees Fahrenheit
- Reports humidity ranges from 0% to 100% non-condensing
- Up to four IP cameras can be displayed on the Web pages
- Supports HTTP; HTTPS; and SNMP v1, v2c, and v3
- Supports 10Mbps Ethernet with an RJ-45 receptacle
- Runs on Power over Ethernet or the included 6VDC wall transformer
- Real-time clock with power backup
- Reset push-button

Improved Backup & Protection

Adaptec Series 5Z RAID Controllers Improve Bandwidth Processing While Reducing Costs

by Seth Colaner

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ADAPTEC’S NEW line of RAID controllers offers impressive specs and a host of built-in technologies designed to provide customers with a solution that simultaneously helps high I/O transaction and high bandwidth processing, saves money on energy costs, and reduces maintenance costs.

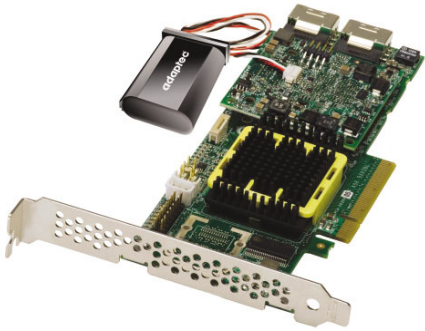
The Series 5Z line of RAID controllers, which includes the 5405Z, 5445Z, and 5805Z, is designed to offer a simple-to-use yet powerful way to back up and securely store cached data in the event of a power loss that simultaneously saves operating costs by building in energy-saving technology. Because there is no additional backup equipment or parts to purchase, replace, or throw away, the Series 5Z RAID controllers also contribute to a lower long-term TCO.

Shared Specifications

All devices in the Series 5Z line share the same specifications. They feature 1.2GHz dual-core ROC (RAID on Chip) technology and DDR2 533MHz write cache as well as x8 PCI Express host bus connection and support for up to 256 SATA or SAS devices. Every port promises 3Gbps of throughput. In terms

of performance, the 5Z family offers 250,000 I/Ops and 1.2Gbps.

The Series 5Z devices support a variety of operating systems, including Windows Server 2003/XP/Server 2008/Vista;



VMware ESX 3.x, ESXi 3.x, and vSphere 4; RHEL (Red Hat Enterprise Linux), SUSE Linux Enterprise Server, SCO OpenServer, and UnixWare; and Sun Solaris 10 x86 and FreeBSD.

Each device is in a low-profile MD2 form factor with four internal (5405Z), eight internal (5805Z), or four internal and four external (5445Z) ports.

Manage Equipment

To manage your equipment, the Series 5Z family uses Adaptec Storage Manager, which provides single-view, centralized management of all Adaptec RAID products.

Based on Java, the interface lets you remotely configure, monitor, and receive notifications and includes BIOS flash support and a BIOS-level configuration utility.

The Series 5Z products support RAID levels 0, 1, 1E, 5, 5EE, 6, 10, 50, 60, and JBOD and employ ARC (Adaptec RAID Code) to help ensure reliability. Series 5Z products are designed for quick setup with background initialization, staggered drive spin-up, and bootable array support. Other features include multiple arrays per disk drive, S.M.A.R.T. support, configurable stripe size, and dynamic sector repair.

Users can take advantage of RAID Level Migration, Online Capacity Expansion to expand capacity without powering down the server, and Copyback Hot Spare to ensure data is copied from the hot spare to a new drive in the case of a drive failure. For maximum efficiency, the Series 5Z products are designed with NCQ (Native Command Queuing); hot-plug drive support; global, dedicated, and pooled hot spares; and automatic or manual rebuilding of hot spares.

Intelligent Power Management

The IPM (Intelligent Power Management) feature in the 5Z family is designed to cut power and cooling costs by up to 70%. IPM can be configured by the user and relies on intelligent I/O caching and disk drive power savings. The two IPM modes are Standby and Power-Off. The former ensures that disks spin at lower RPMs to save energy, and the latter simply prevents drives from spinning at all when they’re not being used.

Building on Adaptec’s Series 5, the Series 5Z RAID devices maintain the same features as their predecessors but are also

equipped with ZMCP (Zero Maintenance Cache Protection). Developed by Adaptec, ZMCP is designed to both enhance overall performance and offer protection for cached data in the event of a power loss.

Many similar solutions use lithium-ion battery backup units to save cached data in the event of power loss, and they require monitoring to ensure they’re working properly. Instead of relying on batteries for backup, the Series 5Z RAID controllers use 4GB of flash memory stored in a cache supported by super capacitor technology. The super capacitor charges instantly upon system boot, and within minutes, the ZMCP technology is ready to protect data.

The cached data remains stored even in the event of a power loss and remains available for up to 10 years as opposed to battery backups, which typically are good for about 72 hours. Thus, response time in the event of a disaster is less pressing.

ZMCP requires no installation, monitoring, maintenance, disposal, or replacement costs, lowering operating costs and total cost of ownership. It’s a free, embedded feature of the Series 5Z line.



Adaptec Series 5Z SATA & SAS RAID Controllers

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Top Quality At The Lowest Price Available

by Blaine Flamig

• • •

PREMIUM POWER DISTRIBUTION without the premium price. Such a notion may sound too good to be true in today’s sagging economy, but such an approach is precisely the customer-oriented mission PDU’s Direct (www.pdusdirect.com) was built on and continues to operate by.

As the online wholesaler of basic, metered, and switched PDUs from long-time PDU maker Server Technology’s product line, PDU’s Direct is dedicated to providing its customers the highest quality in-rack power strips, power distribution, and rack PDUs offered at best-in-class prices.

Established in November 2008 at the outset of the economic downturn, PDU’s Direct understands the financial, cost-cutting challenges now facing SMEs. That’s why PDU’s Direct is committed to supplying its customers with industry-standard, industrial-grade PDUs suitable for network and server environments at prices falling 10 to 20% below competitors’ online prices. PDU’s Direct’s customer commitment extends

to the company’s easy-to-use, uncluttered Web site, which makes locating the right PDU a quick, streamlined process without skimping on the pertinent product information customers require.

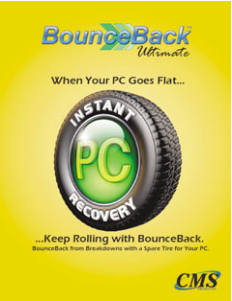
PDU’s Direct’s dedication to its customers is seen through its next-business day shipping policy; 100% satisfaction, 30-day money-back product guarantee; and ultra-convenient email and live chat technical support options. Whether the question or concern is in regard to a product, order, or application, PDU’s Direct’s chat support pairs customers with live operators who possess years of real-world PDU experience and knowledge. Customers can even request a chat transcript for reference following a chat session.

PDU’s Direct power distribution units are constructed in steel-case enclosures, available in a variety of outlet and power-level configurations, and ship with a customer-selected power cord. Each switched PDU sold also includes the latest firmware from Server Technology and fully networked outlet management and power and environmental monitoring abilities. ■



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Simple & Quick Backup & Recovery

CMS Products BounceBack Ultimate

by Seth Colaner

• • •

EVERY DATA CENTER employee knows the necessity of backup and recovery solutions. CMS Products’ BounceBack Ultimate is designed to be a “digital spare tire” for PCs, allowing users to back up and restore the entire contents of a PC, including applications, data, personal settings, operating system, partitioning, and formatting.

Features include Instant PC Recovery, which lets users start up a PC from an external USB hard drive in case the operating system or hardware malfunctions, and instant One-Button Recovery, which is a simple and direct way of restoring a PC hard drive without the need for reinstalling anything. The QuickRestore function also lets users quickly restore specific files and folders.

Other features include CDP (Continuous Data Protection), a function of BounceBack Ultimate that continuously keeps new or modified files up-to-date; the ability to let BounceBack Ultimate run its processes in the background so users can continue to work while the program takes care of business; and easy-to-configure AES 256-bit en-cryption to secure your data from prying eyes.

BounceBack Ultimate also lets users back up to multiple media, such as an external hard drive or network drive, simultaneously so users can have multiple concurrent backups. With synchronization capabilities enabled, users can save a backup of their projects on a backup drive and use the drive on other computers. When the drive is again connected to the original computer, BounceBack Ultimate automatically syncs the changes, ensuring you’re always working with the most up-to-date files. Users can also schedule backups and create backup sets.



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Upgrade download: \$69
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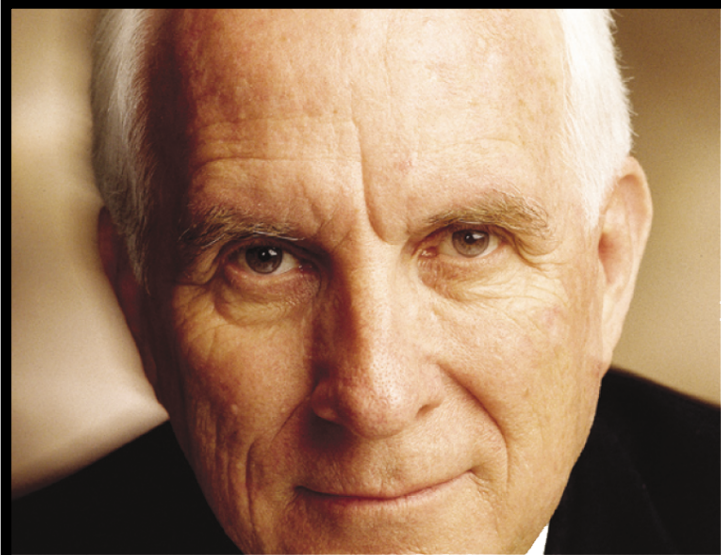
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CASE STUDY

Automatic Failover

School Turns To Neverfail To Improve Email Availability

by Robyn Weisman

CHANDLER, ARIZ.,-based Primavera On-line High School provides a unique educational environment to its 3,000 students. “Our curriculum is 100% online, and our personalized educational experience offers each student an innovative way to earn a high school diploma [in] a structured yet flexible environment,” says Primavera IT Director Manuel Barua. The school is accredited by both the North Central Association and the Commission on International and Trans-Regional Accreditation.

According to Barua, Primavera’s teaching philosophy centers on continuous communication between instructors, students, and parents, and email is a primary mode for corresponding. Primavera fields an average of 10,000 emails a day. When the school’s Microsoft Exchange server crashed back in 2007, it cut off its 200 faculty members and administrative staff from any email communications for an entire day.

Given that Primavera relies so heavily on email, it needed a solution that would prevent any similar availability problem from occurring in the future. “We were particularly concerned that it could not only impact the

school’s availability to communicate with students, but also with some other constituents, such as officers of the Arizona Department of Education who send us important communications that could impact funding, curriculum, and accreditation,”



Barua says. “Missing one of these mission-critical emails could be disastrous.”

After researching and evaluating several high-availability solutions, Barua’s department decided on Neverfail for Microsoft Exchange (www.neverfailgroup.com). Its feature set, ease of use, and price point all factored into Primavera’s decision.

Finding The Right Solution

Primavera’s IT department has a classic small to midsized enterprise setup. It consists of four people, all of whom are generalists. The department does not have the luxury of having a dedicated person to monitor the Exchange server the way a

large enterprise might, and it does not have the sort of budget that allows for altering its current server setup.

Primavera needed to find a solution that was easy to use and reasonably priced. It needed to provide automatic failover capabilities and work 24 hours a day, seven days a week. It also was important that the product chosen not require Barua’s team to significantly reconfigure its current systems or require wholesale upgrades.

Barua’s team evaluated several high-availability solutions from competing vendors, but either the solutions were too pricey or failed to offer the performance or customer support Primavera required. Meanwhile, neither of the two Microsoft applications that come as part of Microsoft Exchange Server 2007—Microsoft SCR (Standby Continuous Replication) and CCR (Cluster Continuous Replication)—matched Primavera’s needs.

Both Microsoft solutions obliged Primavera to buy and build a cluster, something Primavera did not believe it could accomplish in a seamless fashion. Moreover, Microsoft’s SCR solution does not offer automatic failover capabilities and requires manual intervention to recover systems.

Right Feature Set, Right Price

Neverfail’s feature set was a key selling point in Primavera’s decision-making

process, Barua says. “[Our] small team required a solution that would meet all of our expectations and needs, and Neverfail offered us a solution that could replicate Exchange and be able to automatically failover in a matter of seconds,” he says.

Although Barua remembers that Neverfail for Exchange required a close matchup in the size and configurations of the primary and secondary hard drives, he doesn’t believe the software needed much similarity in the specs of the rest of the hardware used. “This is a definite selling point; however, I think it would certainly behoove anybody embarking in using Neverfail or any other failover solution to closely match their existing hardware,” Barua says.

Primavera found Neverfail to be a good value. “Any solution that results in less downtime or expenses, or that makes IT staff more efficient, is valuable,” says Barua. “Neverfail has let us accomplish these things while keeping our teachers, staff, parents, students, and other constituencies connected at all times.”

The Neverfail Difference

Neverfail for Exchange is built on NCAP (Neverfail Continuous Availability Platform), which is used in every application that comprises the Neverfail Continuous Availability Suite. NCAP uses a unique cloning process to copy data from active servers to passive servers. All of Neverfail’s products, including Neverfail for Exchange, revolve around the entire application environment, so that types of disruptions and sources for these disruptions become moot.

Andrew Barnes, Neverfail’s senior vice president of corporate development, says one typical scenario where Neverfail for

CASE STUDY

A Place In The Cloud

Mezeo’s Cloud Storage Services Provide Competitive Edge For Texas ISP

by Sue Hildreth

IN THE HIGHLY COMPETITIVE IT industry, services providers must constantly weigh new types of technologies and services to add to their offerings. So when SoftLayer, a provider of virtual data center services, began hearing requests from its clients for more and better solutions for mobile and remote workers, SoftLayer’s engineers turned to cloud computing technology to help them create a new service to satisfy their clients’ mobile computing needs.

“Traditionally, storage in a data center environment has only been available to a local machine. We were looking for something that would allow customers to access their data, but people now are used to having information at their fingertips all of the time, so it’s natural they’d start wanting more from their service providers,” explains Nathan Day, the CTO at Plano, Texas,-based SoftLayer (www.softlayer.com).

The SoftLayer team decided to focus on cloud computing and, particularly, cloud storage as a service that it felt customers would most appreciate. It began evaluating several providers of cloud storage technology, including both service providers and software makers that would provide the storage services for resale by SoftLayer.

Cloud storage, like cloud computing, enables users to access via the Internet computing resources located on a variety of dif-



ferent devices. With cloud storage, users can upload or download files via the Internet and the clients of their choice. Cloud storage is convenient for people who don’t have a private connection to the office server but need to access work-related files while on the road or from home.

Buy, Build, Or Borrow?

To select a cloud storage application, Day and his team spent several weeks looking at eight different vendors and products. The team decided against reselling another provider’s storage service because they felt it would have limited their ability to customize the software.

“We wanted to have a certain level of control,” says Day. “Going to a third-party solution, we wouldn’t have had that level of control.”

Conversely, Day also considered handling the development in-house, with SoftLayer engineers building the entire

cloud storage layer. The downside to that, however, was the amount of time it would likely take to create a product from scratch. Given that products already existed that did much of what SoftLayer needed, investing in a custom development didn’t seem worthwhile, says Day.

“The level of service that we wanted to provide meant the solution had to be fairly complex. It wouldn’t have been hard for us to put together a simpler solution, but this was more complex,” says Day.

A Good Fit

In October 2008, SoftLayer decided on Mezeo Software’s Cloud Storage Platform (www.mezeo.com), a Linux-based platform specifically made for IT service providers that want to develop their own cloud storage services. “Behind the Mezeo software, we’ve got different levels of servers running the software, redundant databases to track the data. . . . It’s quite a cluster that we’ve built up. So it was nice not to have to worry about the software side by going with Mezeo,” Day says.

Mezeo uses REST (Representational State Transfer)-style Web services, an architecture style designed for creating

distributed networks of URL-based resources. That architectural approach makes it easier for developers to integrate advanced storage, management, and collaboration capabilities into applications. That ability was one major factor in Mezeo’s favor, according to Day. The SoftLayer developers appreciated Mezeo’s flexible storage organization with hierarchical organization, tagging, and enhanced file sharing and collaboration.

“The Mezeo solution includes collaboration tools, so you can share files with others with varying permissions. You can share it on a read-write or read-only basis, for instance, so you could use it as a publication platform to make files available to many people,” says Day, who adds that because it supports industry standards such as HTTP and WebDAV, it is easier to customize.

SoftLayer’s engineers did some initial testing on a demonstration cluster of Web servers, application servers, and database servers to see how the software ran under different loads and conditions. Then, in March, SoftLayer began integrating Mezeo into its infrastructure. The work took eight weeks and involved setting up a high-availability storage cluster, customizing the user interface, and setting up business rules for the service to handle issues such as quality of service and billing. They used the Mezeo API to integrate it into the SoftLayer customer management

Mezeo’s Cloud Storage Platform is specifically made for IT service providers that want to develop their own cloud storage services.

Exchange could be used is if an Exchange server has failed because the machine running the primary server has been a victim of a power failure. “The secondary server, which is effectively a cloned copy of Exchange at the database, will detect that the primary server has disappeared,” explains Barnes. “It will carry out some basic checks to make sure it has really disappeared, and it will come online on the network with the same identity as the primary server.”

Moreover, Neverfail utilizes proactive monitoring to sidestep potential failure, along with seamless switchback that prevents interruption of service during planned maintenance. Its automatic failover is so seamless that users can continue to work without having to restart applications or perform other tasks during switchbacks. People using Outlook or accessing Exchange via a browser or a BlackBerry, for example, will continue to use it as if nothing has changed. “It looks the same because it is the same,” says Barnes.

Proof Is In The Testing

When it came time to test Neverfail for Exchange, Neverfail provided Primavera with temporary access to a virtual environment that enabled Barua’s IT staff to evaluate it and try to bring it to failure. “Even though it had some limitations, we felt it satisfied our needs,” Barua says.

After a smooth implementation of Neverfail for Exchange, Barua’s staff tested it again to make sure the software could replicate Primavera’s Exchange server and automatically failover in a seamless, effortless manner. According to Barua, Neverfail for Exchange has succeeded in providing Primavera with the 24/7 access to email the school needs to

continue providing the innovative teaching and personalized attention the school is known for.

Barua points out that Primavera has not yet experienced a situation that would test Neverfail’s capabilities. “But since the implementation, we have not had any email downtime, knock on wood,” he says.

Because of the school’s experience with Neverfail for Exchange, Barua says his team plans to further explore Neverfail’s disaster recovery solution to work as a complement to the high-availability solution it now has in place. And given the success Primavera has had with Neverfail for Exchange, Barua adds that he looks forward to learning about new features in future editions of the software.

Neverfail for Microsoft Exchange

High-availability software that ensures Microsoft Exchange servers remain accessible regardless of planned or unplanned server outages. It provides proactive monitoring of Exchange systems using performance indicators such as CPU metrics, disk availability metrics, and SMTP queue lengths.

“[Our] small team required a solution that would meet all of our expectations and needs, and Neverfail offered us a solution that could replicate Exchange and be able to automatically failover in a matter of seconds,” says Manuel Barua, IT director at Primavera Online High School.

(512) 327-5777

www.neverfailgroup.com

application, for managing customer accounts and billing.

The Final Product

The resulting CloudLayer Storage product supports a range of clients, including BlackBerry, iPhone, Windows, Web 2.0, Windows Mobile, WebDAV for the Mac, and Linux clients. The Mezeo software serves as the front end for access to the content, while the files themselves are stored on a high-availability SAN, which is equipped with load balancers and redundant databases.

SoftLayer’s other storage access service—StorageLayer—is designed for higher-performance storage and can be accessed either via a customer management portal or by integrating access into a customer’s own interface using StorageLayer’s API.

CloudLayer Storage and StorageLayer can be used together, with StorageLayer providing the high-performance corporate storage needed for real-time access to databases and CloudLayer serving as the remote access point for employees wanting to get to work documents, such as the reports run from the database. Files on CloudLayer can be shared with other colleagues without having to email the document, and the access is secured via 256-bit AES encryption and SSL encryption.

Either of the storage services can also be combined with SoftLayer’s new CloudLayer Computing service, which it launched at the same time as CloudLayer. The services can also be used with a different cloud computing environment of the customer’s choice, or the storage can be accessed without any additional application overlay.

Day says he expects the CloudLayer Storage to become popular with IT workers,

mobile employees, and younger workers used to accessing files remotely over the Internet. “It’s a new generation coming up, which grew up with iPhones and living in front of the computer screen,” he says.

Day himself makes use of CloudLayer storage, as do a few others in the company, especially the IT professionals who have firsthand experience with the technology and, thus, find it natural to use. “It’s a great service for people who have groups of road warriors out there,” says Day.

Mezeo Cloud Storage Platform

The Mezeo Cloud Storage Platform is a software application with REST (Representational State Transfer)-style Web services APIs and WebDAV support aimed at service providers that want to implement and deliver their own cloud storage services. The Linux-based platform attaches to the provider’s existing storage infrastructure through any mountable file system, letting providers customize their levels of service. As a stateless architecture, the platform scales linearly to support a large customer base.

“The Mezeo solution includes collaboration tools, so you can share files with others with varying permissions. You can share it on a read-write or read-only basis, for instance, so you could use it as a publication platform to make files available to many people,” says Nathan Day, CTO at SoftLayer.

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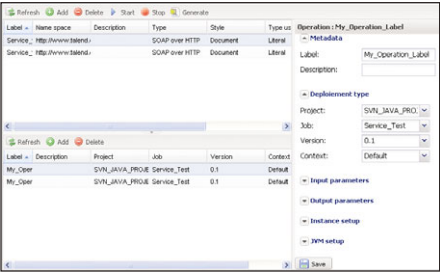
Real-Time Data Integration

Talend Integration Suite RTx Offers Web-based Interface & Automatic Deployment

by Kris Glaser

• • •

IN ORDER TO MAKE confident business-critical decisions, companies need the information that affects them the most to be as accurate and up-to-date as possible. Talend’s Integration Suite RTx is a real-



time data integration platform that can support any enterprise’s application integration needs.

“Talend Integration Suite RTx is the first real-time data integration platform based on Talend’s leading open-source technology. It combines all of the features required to process and integrate data in real time and natively supports both service-driven and event-driven approaches,” says Yves de Montcheuil, Talend’s vice president of marketing.

Integration Suite RTx uses a fully graphical Web-based user interface to illustrate integration jobs as services that can be automatically deployed using SOAP (Simple Object Access Protocol) bindings. “Talend Integration Suite RTx

incorporates an SOA (service-oriented architecture) manager to natively manage the deployment of data integration services and data services, Change Data Capture to identify and process modified or newly created records, and connectors to various databases, packages, applications, and SaaS platforms,” de Montcheuil says.

Small and midsized enterprises can benefit from Talend’s Integration Suite RTx because of its open-source nature. De Montcheuil points out RTx’s optimized cost as a notable advantage, along with RTX’s support for broad sources and targets. “With over 400 connectors, Talend Integration Suite RTx offers the broadest connectivity in the market. It also provides the ability to extend the product with custom connectors,” he says.

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WITH THE HOTPORT 6000-900 SERIES of wireless products, Firetide makes its first foray into Smart Grid technology and the 900MHz part of the spectrum. Designed for indoor or outdoor use—and indeed, within moving vehicles—the new HotPorts supply Ethernet connectivity for video, voice, and data via a self-forming mesh network.

“The new HotPort 6000-900 infrastructure mesh provides IT professionals with a solution to enable high-bandwidth applications in challenging, non-line-of-sight environments,” says Firetide CEO Bo Larsson.



A 900MHz signal gives the HotPort 6000-900 family more “punch” when it comes to penetrating obstacles, making it a natural choice for applications without a direct line of sight between nodes. Meanwhile, its Smart Adaptive feature attenuates the noise around the 900MHz frequency for the best possible signal integrity.

“IT managers with non-line-of-sight locations can now deploy multi-hop, fully meshed networks and receive its benefits of redundancy and load balancing,” says Larsson. “The product enables band-

width-intensive applications such as video surveillance and broadband access in public safety, Smart Grid, transportation, and industrial markets.”

The HotPort 6000-900 system, bundled with a spectrum analyzer and other tools, also has a dual-radio feature. This allows simultaneous operation at 900MHz on one radio and more common frequencies on the other, such as the 2.4GHz, 5GHz, or 4.9GHz bands. Along with VLANs, the series supports WEP and WPA2 encryption between nodes and AES from ingress to egress. Throughput can reach 26Mbps.

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FEATURE PACKAGE

Develop A VoIP & Unified Communications Strategy

What are your enterprise's needs when it comes to VoIP and unified communications? How can you meet those needs while controlling costs? We talked with experts to find out.

Unified Communications Defined | 22

■ Cutting through the confusion that surrounds unified communications is an effective first step in raising the level of your communications game.

Unified Communications: A Strategy | 23

■ Most enterprises have begun adopting some form of unified communications, but like many systems and tools, implementation needs to include strategy as well as purchasing savvy.

Meet Your UC Needs While Controlling Costs | 24

■ The digital enterprise's lifeblood—the three Cs of communication, collaboration, and content—are even more important in this era of electronic business processes and social networking.

5 Tips For Implementing Unified Communications | 25

■ Unified communications provides numerous ways to improve how people interact. But as it encompasses IP PBX, VoIP, email, audio/video/Web conferencing, voicemail, unified messaging, and instant messaging, most organizations don't know where to begin.

Unified Communications Defined

A Look At Unified Communications & What It Means To The SME

by Carmi Levy

ALTHOUGH MOST BUSINESS LEADERS AGREE that unified communications, or UC, helps companies work better, smarter, and faster, they're unable to agree on a consistent definition of the term. Cutting through the confusion that surrounds UC is an effective first step in raising the level of your communications game.

Clearing Up Confusion

Melanie Turek, industry analyst with Frost & Sullivan, says vendors shoulder much of the blame for the uncertainty surrounding UC.

"UC unfortunately is a term that's often blatantly misused and misrepresented," says Turek. "First things first, it is not unified messaging, and it is not Voice over IP. Often, vendors that sell VoIP or related services say that they're in the unified communications market, but they're really not. VoIP may indeed be a component of UC, but it's not UC itself."

UC isn't so much a toolset as it is a mindset, says Michelle Warren, president of Toronto-based MW Research & Consulting. It's built from three critical components: non-real-time communications, such as email, voicemail, and even fax; real-time communications such as phone, instant messaging, and presence awareness; and the business and technical processes to connect everything seamlessly.

Combining formerly separate, individually managed technologies into a comprehensive process-based infrastructure makes life

simpler for IT as well as for the business, adds Warren.

"Having it all under one roof gives the IT department a single area of accountability and responsibility," says Warren, who adds that UC bolsters security, management, training, and procurement. "It also offers the company the opportunity to develop a single communications strategy and then execute against it accordingly."

Different Strokes

Consolidating technologies often involves folding formerly separate networks and functions, such as telephony and data networking, into common processes and teams. And

clients see UC as a means of simplifying their telephony infrastructures with click-to-call capabilities, softphones, and integrated voice applications. Delpizzo says the one central feature of UC that drives this integration is presence awareness, which "lets others know if you are online, available, on the phone, on a mobile device, and even your physical location. Presence provides the context by which others decide how, and if, they will be able to collaborate with other users in real time."

He continues, "Presence awareness means you're more likely to get to an available expert on the first try—that eliminates voicemail, email, and the associated delays in response time. Click-to-collaborate means that employees don't have to worry about looking up phone numbers or remembering meeting passcodes. Plus,

Key Points

- Different companies can adopt different UC-based elements to suit specific—and unique—business needs.
- Avoid vendor doublespeak. VoIP and unified messaging vendors are not in the unified communications game despite claims to the contrary.
- ROI for unified communications isn't always easy to calculate; instead, business benefits and new collaborative workflows are driving the UC need.

ties as enterprise-class reliability, rapid scalability, and advanced management that were once limited to larger, more resource-rich shops. Although that may be a boon to smaller organizations, selling the concept to senior leadership remains a challenge.

"ROI is frankly where the vendors and customers have the biggest problem showing value," says Frost & Sullivan's Turek. "UC typically won't be justified by a single, clear ROI calculation as much as it will be by real and significant changes in how a company does business."

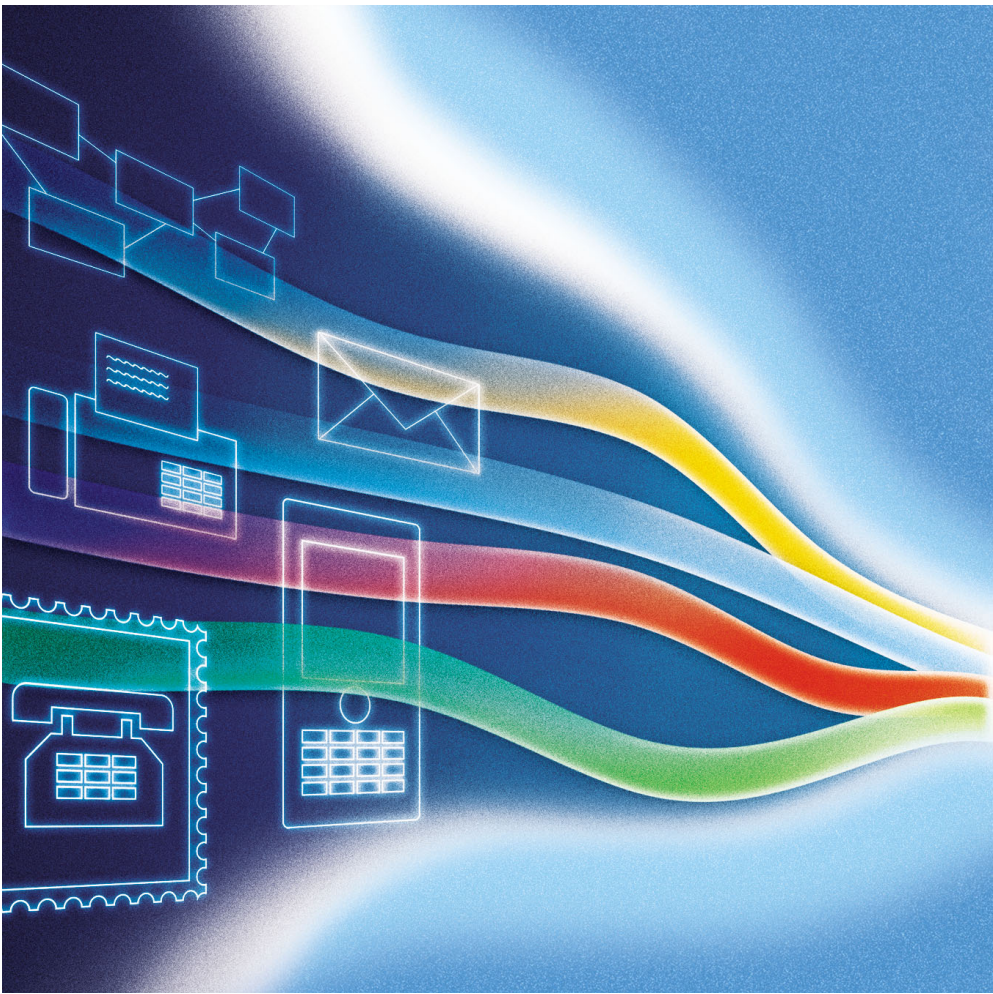
New Ways To Work

Increasingly collaborative work environments, driven by the widespread availability of relatively inexpensive broadband and collaborative tools that take advantage of the resulting bandwidth, are pushing companies to adopt UC. When entire project teams, for example, work from home offices and almost never meet in the same physical space, the resulting virtual workflows demand new means of communications.

"UC will be pushed on companies and end users because there's simply no other way to get the same level of collaboration in these new virtual work scenarios," says Turek, who counts herself among the growing population of virtual workers. "UC tools allow me to virtually pop my head outside my virtual cubicle and interact with my colleagues in ways that just wouldn't be possible otherwise. In that respect, it's about much more than ROI."

It's also much more involved than simply installing a few extra servers and flipping the switch. IT and its service providers can't afford to ignore the infrastructure implications of implementing UC-based solutions.

"As unified communications deployments grow in popularity, data centers can expect an influx of new business in real-time unified communications support," says Robert Wolpov, founder and president of Junction Networks (www.junctionnetworks.com), a provider of hosted UC service to SMEs. "The challenge for data centers is to be ready for a new quality standard as telephony, messaging, and presence require a high degree of reliability and speed not previously required to support downloading of Web pages or email transmission." ■



although most IT managers agree UC results in a simplified org structure and technology roadmap, some are just as sure that one firm's UC solution may not fit everyone.

"The definition of unified communications continues to evolve and represents a range of capabilities," says John Delpizzo, senior product manager for unified communications and collaboration software at IBM. "The 'right' unified communications and collaboration solution incorporates the appropriate elements to help an enterprise meet its strategic objectives."

Some of IBM's clients, for example, use text, voice, and video chat and online meetings to rein in travel and telephony costs and accelerate decision-making. Other

there is a certain 'cool factor' with this technology that's appealing to end users who appreciate having the information they need right at their fingertips."

Driving Business In The Downturn

That agility is especially important during tough times. Kevin Gavin, ShoreTel's vice president of marketing (www.shoretel.com), says UC gives companies of all sizes the tools to improve operational efficiencies.

"The current state of the economy has underscored the need to do more with fewer resources," says Gavin. "Unified communications systems add to this bottom line."

Gavin says UC can help small to midsize enterprises take advantage of such capabili-

The Numbers Don't Lie

A recent survey conducted by CDW (www.cdw.com) points to a bright future for UC.

Momentum Is Building

- 20% of organizations are actively implementing UC
- 33% are planning implementations

Down Economy Not A Deterrent

- 70% of organizations currently in the UC planning and implementation phases expect to complete their adoption within two years, despite the weak economy

Why Companies Are Adopting UC

- Increased productivity: 61%
- Operating cost reductions: 56%
- More reliable communication: 48%
- Improved cross-functional communication: 44%
- More effective use of remote or mobile workers: 41%

SOURCE: CDW, "CONNECTING THE ENTERPRISE: 2009 UNIFIED COMMUNICATIONS TRACKING POLL," 2009.

Unified Communications: A Strategy

Data Center Managers Should Have A Clear Plan Before Diving In

by Elizabeth Millard

MOST ENTERPRISES HAVE BEGUN adopting some form of UC (unified communications), but like many systems and tools, implementation needs to include strategy as well as purchasing savvy. (For a definition of unified communications and what it encompasses, see “Unified Communications Defined” on page 22.) Here are some tips on how to develop a solid UC plan that will boost overall productivity without eating up IT staff time.

Making The Decision

The most common goal of a UC strategy is to make people more productive by changing the method and frequency of their communication, notes Chris Rafter, vice president of consulting services at Logicalis (www.logicalis.com), a provider of integrated information and communications technology solutions.

“Unified communications doesn’t tell people how to communicate; it offers choices [and] lets them choose what’s best for that individual, that conversation, even that moment in time,” he says. IT managers should determine whether a UC system would be of benefit or if there’s the possibility that it wouldn’t be used as much six months down the road, which greatly diminishes the solution’s value, adds Rafter.

Another major factor in making the decision is customer need, according to Stephen Brown, vice president of U.S. systems engineering at Mitel (www.mitel.com), specializing in IP communications and business process integration.

“As companies demand more multifaceted ways of connecting with their customers, businesses need to implement more effective ways to provide their services and streamline their business processes,” he says. “By adopting a UC strategy, businesses are recognizing that they have to change

how they communicate internally and by extending their communication reach to partners, staff, and customers.”

Avoiding The Stumbling Blocks

As with any type of implementation, there are challenges that enterprises might not anticipate, notes Eric LeBow, vice president of business transformation at Spanlink (www.spanlink.com), a provider of UC and customer interaction solutions that leverage VoIP technology.

“As a result, employees don’t use the solutions to their full potential, and ROI is lost,” he notes.

Compliance issues may also come into play, adds Mitel’s Brown. For example, a business in the medical field will need to ensure that HIPAA compliance can be met with any new UC implementation. Security, too, plays a part because personal information will now be accessible from multiple platforms. Brown advises companies to address security issues before, rather than during, any UC implementation.

Finally, UC can create a demand on IT staff, as the benefits and value of these new tools need to be taught and com-

municated to employees and customers to ensure adoption, Brown notes. This is a challenge that could be particularly daunting for SMEs, he says: “SMEs need to maximize resources, and, often, full-time, dedicated IT staff are not included in the business plan.”

Streamlining Implementation

To create a UC system that’s at maximum effectiveness, it’s imperative to analyze how people work, how they interact, and how they make decisions, says Logicalis’ Rafter: “We usually start with trying to understand how employees are communicating today. Which modes are they using? What does the corporate culture dictate? What is their geographic spread?”

One tip for implementation is to take a phased deployment approach, adds LeBow, which involves adding one UC component at a time and integrating it with an existing infrastructure, as opposed to ripping out old infrastructure and replacing it with all-new components.

“Rolling out your new UC solution in a phased approach will be easier on your company, as well,” says LeBow. “You may consider rolling out the technology to a few groups within your organization first before rolling it out company-wide. Also, be sure that you communicate milestones to

Key Points

- Determine how a UC system would affect customer communication as well as employee use.
- Conduct assessments of the network to make sure that it can handle a UC system or if it will cause unnecessary downtime.
- Send IT employees to training or line up consultants and engineers who can help so that expertise is in place before UC is implemented.

employees and clearly demonstrate how to use the new technology.”

The phased approach can also build anticipation among users, who might feel like they’re getting “something new” every two to three months. This method allows for testing and piloting, which are vital for seamless integration.

“Nothing stings as much for users as when they go to use a new communications method and it fails to function as they expect,” says Rafter. “It’s a lot easier to fix something in test than to win back a frustrated user.”

Whether going in phases or a full-scale rollout, bringing in highly experienced engineers is crucial, Rafter adds. Many companies integrate products from multiple vendors, and it’s a common challenge to achieve cohesion, but because UC is becoming more prevalent, there are numerous engineers who have experience in putting together these systems.


Rafter says, “Having the right engineer around who knows exactly which switch to flip can save weeks of head scratching, troubleshooting, and frustration.”

Strategy Checklist

Eric LeBow, vice president of business transformation at Spanlink (www.spanlink.com), offers some considerations for developing a UC strategy:

- Understand what unified communications is as well as the technologies that encompass it.
- Identify the business problem: What are you trying to solve?
- Understand which technology may be able to solve your problem.
- Evaluate multiple solutions; don’t focus on price at the expense of value.
- Evaluate technology partners; find one that understands your problem and is dedicated to solving it, not just implementing new technology.
- Have a plan in place for support.





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Meet Your UC Needs While Controlling Costs

Successfully Implementing Unified Communications Doesn't Have To Break The Bank

by Kurt Marko

TODAY'S ECONOMIC CONDITIONS mean most enterprises maintain a cautious attitude when it comes to spending and hiring. Now is not the best time for IT managers to be proposing major new projects even in the face of user demands. Yet business goes on, and the digital enterprise's lifeblood—the three Cs of communication, collaboration, and content—is even more important in this era of electronic business processes and social networking.

"The nervous system of every business is communications," says Siamak Farah, founder and CEO of SaaS provider InfoStreet (www.infostreet.com), who notes that collaboration enables employees to handle increased workloads and shorter project cycles. Thus, many IT departments are caught in a vice between greater demand and diminished resources.

Yet all is not hopeless. "The adversity is forcing organizations to learn how to prove value for 3C technologies," says Craig Roth, vice president and service director for Burton Group, who adds that strategic trimming of 3C solutions can allow companies to emerge from the recession stronger than their rivals. He outlines three approaches for effective, intelligent cost reductions: more rigorous portfolio management, top-down analysis of organizational 3C requirements using a needs assessment and workplace framework, and greater financial discipline.

Portfolio Management & Needs Assessment

Roth describes portfolio management as the evaluation and ranking of IT's array of 3C services using three criteria: their contributions to running current operations, growing and improving the business, or transforming it through high-risk/high-reward ventures. The result should be a prioritization of limited funds to existing services with the biggest business impact and to investments with the greatest potential for providing competitive advantage.

Roth says the big-picture view of office worker productivity is best ascertained through a formal workplace framework and top-down analysis of application requirements for various jobs. Although portfolio management and needs analysis can guide spending priorities and uncover redundant or unnecessary services, they don't directly address cost control; for this, IT needs a financial framework.

Driving For Hard Savings: Provable ROI

Roth sees four tactics for reducing 3C spending: cost savings, cost avoidance, using "free stuff," and doing more with what you have. When analyzing 3C costs,

affect a company's profit through either increased revenue or decreased expenses.

Although 3C solutions have historically come up short on tangible financial savings, Roth sees three notable exceptions: Web conferencing and collaborative workspaces to reduce travel; Web-based content

and new software versions are optimized for VM environments, that's changing.

SaaS

SaaS is another technology that can reduce 3C costs. Many IT organizations are leery of trusting their email to a third party, while some employees resist Web-based email clients; however, Pray notes that "for the next-generation worker, Web mail equals email." SaaS' traditional cost advantage—



to replace expensive information distribution channels such as printing or call centers; and outsourcing 3C systems such as email, collaboration workspaces, or even VoIP systems.

Converged voice and data networks using a UC strategy can also yield palpable benefits by reducing telephony and audio conferencing charges, voicemail and fax costs, and travel and facilities expenses through increased telework, according to Scott Kinka, senior vice president of network services at Evolve IP (www.evolveip.net).

Consolidation: Both Platforms & Applications

Implementing convergence and consolidation is also a key cost-cutting strategy when provisioning internal 3C applications, and it's one that can be pursued along several vectors: eliminating redundant or underutilized systems, decreasing the number of servers by using virtualization, and reducing the number of 3C application platforms.

Virtualization is increasingly being employed on email and content manage-

trading large up-front capital expenses for small, recurring operational ones—is particularly compelling for organizations facing replacement of aging, obsolete systems.

Cautious organizations unwilling to entrust their entire collaboration environment to the cloud can still benefit from a hybrid of on-premise and SaaS email, according to Pray, because many employees don't require full-

Key Points

- Evaluate and prune communication and collaboration spending by reviewing IT's portfolio of services, conducting a user needs assessment, and using financial rigor when evaluating new investments.
- Consider using open-source software and SaaS for some user segments or application requirements.
- Use virtualization to consolidate internal systems, eliminate underutilized services, and reduce the number of application platforms.

featured, standalone email such as Outlook/Exchange. Occasional users, or younger workers comfortable with online applications, can be shifted to Web mail at significant savings, while keeping other employees on a traditional in-house solution.

User Segmentation

A portfolio review and needs assessment can also uncover 3C product overprovisioning. Roth notes that many casual users may be well-suited for what Roth terms "free stuff"—either open-source software or free SaaS. Open source has rapidly migrated from the data center's core up the software stack to end-user applications such as email/calendar-ing, Web portals, collaboration platforms (wikis, social networks), and content management. However, Roth cautions that open source doesn't mean free, because "IT implementation may incur costs for personnel, servers, training, and outside expertise. Still, commercial software requires all these costs, as well, in addition to a license fee and/or client access licenses, so [open-source software] generally looks like a bargain if it can address the same requirements."

Unlike open source, the benefits of free SaaS often don't outweigh the perils. Although cash-strapped IT departments may be tempted to try free SaaS services for some communication needs, Roth sees this as fraught with dangers including regulatory and legal concerns, security risks, and technical issues such as service availability and performance. 1

3C Technologies

Communication, collaboration, and content form the three Cs of the digital enterprise. Within communication, technologies vary between synchronous services, such as voice and IM, and asynchronous services, such as email. Similarly, collaboration technologies can be broken out into real-time applications such as Web conferences and asynchronous applications such as shared workspaces and wikis.

	Communication	Collaboration
Synchronous	Channels including instant messaging, telephony, and audio/video chat	Workspace-based environments for conferencing and application sharing, including tools for real-time collaboration (joint authoring, whiteboarding, and polling)
Asynchronous	Channels including email, XML syndication (RSS-based blog and news feeds), and alerts/notifications based on personal subscriptions	Workspace-based environments for sharing tools (discussion forums and document libraries) and artifacts (wikis, documents, and calendars)

Content is the currency for all modes of communication and collaboration. Content lifecycle concerns include creation, storage, management, discovery, distribution archival, and analytics.

SOURCE: "THE BURTON GROUP GUIDE TO SAVING MONEY ON COMMUNICATION, COLLABORATION, AND CONTENT TECHNOLOGY"; LARRY CANNELL, GUY CREESE, BILL PRAY, AND CRAIG ROTH.

Strategic trimming of 3C solutions can allow companies to emerge from the recession stronger than their rivals.

Roth feels that today's financial environment means ROI justifications relying on "soft," indirect, and immeasurable savings such as productivity improvements won't fly. Rather, he says CFOs are looking for demonstrable monetary results that directly

ment systems. These systems servers traditionally haven't been good virtualization candidates due to their consistent, heavy workloads and high I/O demands, says Burton Group analyst Bill Pray; however, as server performance continues to improve

5 Tips For Implementing Unified Communications

Success Depends On Planning, Involving End Users & Avoiding Sudden Shifts

by Drew Robb

UNIFIED COMMUNICATIONS provides numerous ways to improve how people interact. But as it encompasses IP PBX, VoIP, email, audio/video/Web conferencing, voicemail, unified messaging, and instant messaging, most organizations don't know where to begin.

"Although there is significant interest in UC from many enterprises, it remains a daunting and confusing topic," says Bern Elliot, an analyst at Gartner, in his "Magic Quadrant for Unified Communications" research note. "As a result, many enterprises find it difficult knowing where and how to start."

Start With Low-Hanging Fruit

Most experts agree that SMEs should keep it simple when it comes to UC implementation. A phased deployment is a good way to maximize investment. But which phase should come first? A good starting point is the identification of low-hanging fruit, such as an existing workflow that will be positively affected by unified communications with minimal investment and maximal return on investment.

For example, connecting an existing customer contact system with voicemail via an inexpensive upgrade might entail low costs yet bring high potential gain. By choosing such a task as the first phase of a gradual rollout, the end-user community sees the benefits of UC firsthand and gets behind further phases planned in the future.

"Most enterprises are phasing their deployments over time in order to write down legacy investments and preserve certain operational business workflows," says Timothy Perez, vice president and general manager at Siemens Enterprise Communications (www.enterprise-communications.siemens.com). "Allowing them the flexibility and predictability of a phased deployment/payment schedule maximizes their investment in the implementation."

Implement At The Business Unit Or Department Level

A big-bang approach to technology deployment is occasionally a success, but when it goes wrong, the consequences can be staggering. And as UC is not a one-size-fits-all proposition, it very much requires attention to local variations and regional needs. Therefore, it is best to avoid the large scale, at least initially, and focus efforts on specific business units and/or departments.

"Unlike telephony, which is an enterprise utility, unified communications should be implemented specifically for a business unit or department in mind," says Kevin DeMers, senior manager for unified communications at CDW (www.cdw.com). "For example, the

sales department generally desires an entirely different user experience than the engineering or human resources departments."

Communicate With End Users In Advance

The most common pitfall that organizations run into during implementation is inadequate planning and lack of key stakeholder involvement. This can make or break the carrying out of unified communications.

"Planning the implementation, while focusing on end-user and business processes by department, is the only way to get in front of potential risk," says DeMers. "This requires intense review and acceptance from key stakeholders on what changes to business process might be needed to better utilize the UC application being implemented."

A high level of communication with end users in advance, backed up by hands-on user training, is a necessity. If users have a say in

Key Points

- Unified communications requires a phased approach, beginning with small steps that target the low-hanging fruit.
- UC projects should start with harnessing existing assets and building from there rather than attempting a one-size-fits-all approach.
- End-user communication is vital for project success.

is an expensive route. Smart SMEs save big by building on what they currently have and preserving existing investments.

Say, for instance, an SME has PBX, voicemail, and email systems that were implemented in the past couple of years. It makes sense to use these elements as the basis for a broader UC vision. Ripping them up and starting anew may sound good on paper but is almost always the most expensive way to go.

"Enterprises should review their inventories of communication equipment and the business partners and then develop a vision for where their communication could be," suggests Elliot.

One Vendor Does Not Fit All

It is rare that a single product suite addresses all of an enterprise's UC needs. Planners, therefore, should not expect a lone vendor to meet every requirement. Success often demands multiple vendors working in harmony.

"UC solutions require vendors' products to be interoperable," says Elliot. "As a result, evaluation considers how well vendors can work with other vendors, and enterprises should consider this an important criterion."

There are some products, for example, that are really only meant to be used in a standalone manner. They are simply not designed to be one component of a larger solution. Others, on the other hand, are relatively vendor- and platform-agnostic. Only detailed questioning of vendor reps and on-the-ground testing can reveal how well different tools will integrate.

"No one vendor offers everything an enterprise needs for communication," says Elliot. "Enterprises should ensure that the different products can interoperate." P

what is happening and are trained well, deployment hiccups can be largely avoided.

"It sounds simple, but many times organizations assume that the end user will learn how to use the technology through experience," says DeMers. "That lack of training and inadequate communication leads to unhappy employees on the first day of service, creating a perception of a bad solution."

Build On What You Already Have

Completely changing the current communications system is rarely called for and

Best Tip: Pilot To Gain User Confidence

It is normal for users to question the audio and video quality of unified communications. Prior to any rollout, then, it is best to have a limited number of users involved in a pilot project. In addition to helping to ascertain the interoperability of the various components and the value of the system overall

prior to any large-scale purchase, this can garner greater user confidence.

The University of Kentucky, for example, conducted a three-month UC pilot involving a few dozen users. According to Doyle Friskney, CTO of the University of Kentucky, the

results gained impressed so many people that the IT organization increased the number of seats it planned to purchase from 300 to 1,000. This included audio and video help desk support for a wide range of users, meetings among disparate sites, and instant messaging and voice calls.

Cloud Computing Standards Are In The Works

Several organizations have teamed up in an effort to create new cloud computing standards. The team, called the Cloud Standards Coordination working group, consists of many standards development organizations, including the Object Management Group, the Distributed Management Task Force, the Open Grid Forum, the Storage Networking Industry Association, the Open Cloud Consortium, and the Cloud Security Alliance.

"This is an effort to provide coordination between the various standards bodies and working groups so that they can ensure interoperability and a common architecture across cloud efforts," says Forrester Research analyst James Staten.

The group's goal is to standardize several areas of cloud computing, such as security, data protection, interoperability, monitoring, identity management, network protocol support, and administration, Staten says, though he feels that because most cloud platforms are still evolving, it may be a little early to be setting standards. "I'm not too fond of a lot of these standards efforts this early in the game," he says.

Good & Bad

Staten does point out that there are many benefits of creating cloud computing standards. "The positive is that standards make it easier for ISVs to build tools that work with multiple cloud platforms. For developers, it becomes easier to integrate services running on different clouds, set up virtual private clouds, and link cloud environments to corporate data centers," he says. Staten also notes that standards could encourage slower-moving companies to adopt the platforms.

But Staten mentions disadvantages, too. "On the negative side, they can slow down the evolution of these platforms and hinder some bit of innovation. As the standard becomes something you are forced to adopt or becomes a boat anchor, you have to carry along as you attempt to evolve your offering," Staten says. Despite Staten's opinion that it may be too early to create cloud computing standards, he points favorably to the work being done by the Distributed Management Task Force: "The most promising so far is the DMTF's work, which centers on proving interoperability between two players and, through repetition, determining what can be standardized and how best to achieve that," he says.

In order to accomplish new standards, the Cloud Standards Coordination working group is seeking input from users and industry members. Those who want to participate by offering their thoughts can visit the group's wiki page, found at www.cloud-standards.org.

by Kristina Glaser



SIX QUICK TIPS

Avoid An Equipment Fake-Out

Heed The Warning Signs To Protect Yourself From Counterfeit Equipment

by David Geer

• • •

SMEs HAVE GOOD REASON to seek better hardware pricing in a down economy; however, low prices are no bargain if the product is not genuine. Counterfeits may perform poorly or fail, and OEMs do not support fake products. “The use of counterfeits in the data center can result in valuable data loss and business interruption,” says Ram Manchi, president of the nonprofit group AGMA (Alliance for Gray Market and Counterfeit Abatement; www.agmaglobal.org).

So, what is a counterfeit? Counterfeit hardware has components, software manuals, or

other aspects that are not authentic or that the fraudsters have materially changed since it left the manufacturer, and without authorization from the OEM, Manchi explains.

But, the definition of counterfeit is broader. “Counterfeit means anything that is using or infringing, in any form, an OEM’s intellectual property registration without the OEM’s consent or authorization,” Manchi says. As such, Manchi adds, counterfeit products can comprise individual components, whole parts, a finished product, the packaging, documentation, software, and even the cartons and boxes in which fraudsters ship finished goods.

Here are some tips data centers should use to spot fake hardware.

Some Prices Are Too Good To Be True

The down economy has produced many hardware bargains as vendors lower prices to attract cash-strapped SMEs. To determine whether the price is too low to rely on, begin with standard market pricing.

“If a product is brand new, never opened, and 50% off of any standard market price, that is impossible,” Manchi says. That combination of quality and price is a clear indicator of counterfeit goods.

As obvious as that example may be, counterfeiters are more blatant, widening the price gap beyond the unbelievable to the overtly fantastic. “Some resell products at 75 to 80% off,” says Lawrence Van Deusen, national practice manager at Dimension Data (www.dimensiondata.com).

However, the discounts do not have to be extreme to point out the possibility of forged product. “Even 10 to 15% off of manufacturer pricing is questionable,” says Manchi.

Shop From Authorized Resellers

If the purveyor is not an authorized reseller, SMEs should question the goods, how the seller acquired them, and whether the manufacturer will offer support. “If the product is purchased from an unauthorized reseller, the OEM will usually not provide any support or replacements, as they cannot know the product condition, origins, or how it was handled outside of their authorized channels,” Manchi says.

The solution: Look for public-facing Web pages that list the OEM’s authorized resellers. Most large vendors will have these.

“OEMs provide ways to select authorized resellers based on the customer’s requirements such as location or product expertise,” Manchi says.

“Meet with authorized resellers in person, find out how long they have been around, [and] ask for credentials and references,” says Josh Simon, director of data center services at Atlantic.net (www.atlantic.net), a provider of managed hosting, dedicated servers, and colocation services.

Inspect The Product

Manufacturers offer guidelines for distinguishing genuine products. “These guidelines are available from their brand protection, safety and security, legal services, or product authentication departments,” Manchi says.

“Knock-offs are produced from unauthorized components, which are often counterfeit themselves. Such hardware may use few genuine OEM parts,” Manchi says. A knock-off, produced without manufacturer consent, may carry an intellectual property rights infringement such as a mock label. “Counterfeiters even use correct serial number sequences or real serial numbers from older equipment, which are difficult to identify,” Manchi adds.

“Inspect the equipment and validate where it came from using serial numbers, holograms, and any shipped documentation,” says Van Deusen. “If the device documentation has any misspellings, is not in English, or doesn’t have trademarks, then the gear is most likely fake.” Plus, Atlantic.net’s Simon adds, “Check the serial number on the product against the manufacturer database.”

If the product sticker is not a hologram, this is a big red flag. “Look at the welds and the font colors printed on the circuit boards and compare them to ones you know are legitimate. Check part labels, bar codes, LED light colors, and screws in the same way,” says Simon.

SIX QUICK TIPS

Optimize Virtual Environments

Tips To Avoid Virtual Server Sprawl & A Host Of Other Woes

by Drew Robb

• • •

SERVER CONSOLIDATION and virtualization offer a path to eliminate server sprawl and gain more bang for your hardware buck. As a result, most analyst estimates show that virtualization is now past the early adopter stage and is being broadly adopted by enterprises of all sizes.

Like everything else, however, there is a right way and a wrong way to go about it. As with their physical counterparts, for

example, virtual servers can also sprawl uncontrollably. Similarly, VMs (virtual machines) can be set up improperly, resulting in poor performance. These and a host of other issues can plague a poorly conceived virtualization rollout.

Avoid Virtual Server Sprawl

Server consolidation and virtualization offer a path to eliminate server sprawl. However, if virtualization isn’t properly planned and managed, it can become a tan-

gled nightmare that consumes more time and money to fix than the previous infrastructure.

Scott Johnson, a performance engineer at TeamQuest (www.teamquest.com), says it is so easy to create a new VM that people tend to create too many of them. This leads to a relatively new phenomenon in the enterprise: virtual server sprawl. Virtualization without proper planning, management, and service optimization can induce more stress than older architectures.

“Zombie servers are an even bigger problem with virtual machines than [they are] with physical servers, due to the ease and speed of setting up a VM,” Johnson says. “A VM set up for a quick test or other short-term need can keep running indefinitely.”

The solution is to install either management add-ons or third-party tools to keep track of all VMs and stay in control of the interdependencies that exist, though often obscured, within a virtual environment.

Plan Your Capacity

Enterprises running VMware need to understand the amount of capacity required based on real usage and realistic growth estimates. Otherwise, two possible fates await: oversubscription of physical servers or significant underutilization.

“Many organizations have significantly over-engineered their virtual environments and, in so doing, have not achieved the expected ROI or a return that is only made possible with greater understanding of the

capacity characteristics of the infrastructure,” says Robert Wilson, service director for virtualization at Glasshouse Technologies (www.glasshouse.com).

Capacity planning software helps you understand whether you need to add more physical servers and when. Alternatively, it highlights areas where you can reduce the number of servers because of overcapacity.

Such tools can also be of use when it comes to configuration management. VMware ESX clusters, for instance, can be very sensitive to misconfigured hosts. VMware technologies such as VMotion can break if system configurations are not provisioned correctly or are altered by mistake.

“It is vital to provision servers in a standard way and monitor configurations over time to ensure that they remain compliant,” Wilson says.

Adjust Virtual CPUs

If response times in physical servers are lacking, you can move the work to a higher-end system or upgrade the server hardware. In a virtual world, however, you can optimize processor performance several ways. “You can very easily move the guest and adjust the guest attributes, change the virtual CPU (vCPU) configuration, or change the physical CPU configuration,” says Steve Gillum, Virtualization Assessment Team lead and solutions architect for CDW. “If the system is approaching the vCPU limitation, disabling cores or increasing CPU speed will improve that system as a candidate.”

Several servers can be set up in a virtualization cluster that consists of multiple CPUs and considerably more vCPUs. Each vCPU in such a setup is limited to the core or thread

BONUS TIPS

■ **Avoid illegally produced factory overruns.** Counterfeiters include factories that legally produce genuine goods and then produce unauthorized overruns of the product and sell them out the back door as the genuine item at a discount. “These overruns are made without the consent, knowledge, or approval of the OEM,” says Ram Manchi, president of the nonprofit group AGMA (Alliance for Gray Market and Counterfeit Abatement; www.agmaglobal.org). However, because the OEM authorized

the factory to make the real product, these are the hardest to distinguish from products that the OEM will support.

“Some manufacturers in China are doing runs themselves at their own cost and selling them as genuinely approved product,” says Josh Simon, director of data center services at Atlantic.net (www.atlantic.net). If the product is perfect but the OEM has not authorized the reseller or the serial numbers do not match those in the OEM database, run!

■ **Contact the OEM.** When in doubt, simply contact the OEM. “[Some companies have] entire brand protection teams to make it simple for partners to verify equipment,” says Simon. The best way to confirm the equipment is to confirm a reseller’s relationship with the manufacturer. Contact the OEM directly. “OEMs will always happily confirm reseller status or suggest a reseller for direct contact,” says Manchi.

BONUS TIPS

■ **Monitor performance.** Monitoring performance at the physical and virtual layers can help locate unused or overallocated resources. “Compare trends in virtual machine utilization over time to look for unusual usage patterns,” says Robert Wilson, service director for virtualization at Glasshouse Technologies (www.glasshouse.com). “Find virtual machines that are no longer being used as well as those orphaned without being noticed.”

■ **Implement alerting of all infrastructure aspects.** As the virtual infrastructure grows in scale, it naturally becomes more difficult to keep track of every single aspect of the environment using built-in tools. According to Wilson, it becomes especially important to manage by exception with a solution that notifies administrators when conditions move outside of acceptable limits. Alerting packages are available from a number of vendors. Some,

however, generate an overabundance of alerts. It is best to focus on tools that include analytic capabilities to sift through thousands of alerts to detect the serious situations from the relatively unimportant. Wilson says one company implemented an alerting analytics package and saw 3,000 alerts an hour distilled down to a handful, which made it easy for IT to see where to direct its attention.

If the product is refurbished, know that OEMs that authorize the sale of refurbished goods sell either from their own Web site or from an approved third party.

Beware Of Gray Market Gotchas

Gray markets generally offer authentic goods via unauthorized channels; however, counterfeiters use the same channels they use. Products that surface in the gray market may be used, offered “as is,” refurbished, offered “new,” or may have been rejected by a customer and retrieved for resale. Secondary markets and their brokers sell these legally.

However, if the seller has mislabeled or misrepresented the device as approved by the OEM in its current condition, then it, too, is

counterfeit. Some of this product is genuine but stolen from the factory or the customer site. “It could have been hijacked in transit or stolen from the customer warehouse,” says Manchi.

OEMs also consider the equipment counterfeit if it’s sold to an unintended customer. Take the education sector, for example. “A school district may get a 20 to 25% discount, a typical benefit offered to educational institutions. But the OEM offers that only to those who work in education. If the hardware is sold to a customer outside that market with the discount still attached, that makes it counterfeit, as well,” says Manchi. The OEM that finds out may not support the product. “To avoid these risks, use approved gray market resellers,” says Van Deusen. [P]

Smart Tip:

Watch Out For Suspect Online Auctions

Unauthorized vendors lurk at online auction sites. OEMs monitor auction sites and trading places for signs of cheap goods that may be counterfeit, ready to take action against offenders, according to Manchi. However, that does not mean data centers will not find false ads on those sites when they go searching for equipment deals.

An auction site’s reputation is no guarantee that the goods sold there are genuine. Scrutinize these goods and vendors with extra diligence, or forego purchasing their wares.

Easiest Tip:

Judge Hardware By Its Cover

SMEs may be able to tell bogus equipment by its packaging. “Inspect equipment on delivery. If there is any question about it, confirm the maintenance contract and the serial numbers,” says Lawrence Van Deusen, national practice manager at Dimension Data (www.dimensiondata.com).

Packages with imprints or labels that demonstrate poor print quality, color differences, or placement on the package other than as the OEM typically uses are suspect, according to Ram Manchi, president of the nonprofit group AGMA (Alliance for Gray Market and Counterfeit Abatement; www.agmaglobal.org).

“Packaging marks that bear signs of relabeling such as a label placed over another, glue marks, or signs of removed labels, should be questioned,” Manchi says.

available, so adjusting the number of cores, threads, and CPU speed is necessary to dictate which candidates can be virtualized.

“The virtualization cluster must be sized to meet certain aspects, such as redundancy, load balancing, and growth,” Gillum says.

Virtual Fragmentation

Fragmentation of files on physical servers is a well-known problem. What isn’t so well-known, however, is that it is an even bigger problem in virtual environments.

“Virtual systems suffer twice as much—fragmenting at the host and guest levels,” says Mark Harrer, a sales engineer at Diskeeper (www.diskeeper.com). “Compounding this, by consolidating many servers into one, a single storage device is forced to work overtime due to the four or five times increase in I/O traffic. This results in heavy processing bottlenecks.” Disk defragmentation vendors now have products that address fragmentation of VMs to eliminate disk I/O constraints. [P]

Best Tip:

Use The Latest Processor Technology

The better the processor, the better the results with virtualization. After all, the more I/Ops (input/output operations per second) the chip can process, the faster it will perform. And because virtualization itself exerts an overhead, it’s important to have as good a processor as possible.

“Multiple-core CPUs such as the Intel Nehalem processor are very powerful,” says Paul Maritz, CEO of VMware (www.vmware.com).

Getting the best processors can greatly increase the I/Ops for a machine. You can upgrade other hardware and software that will speed up or help run applications, operating systems, and virtual machines.

Simplest Tip:

Take Advantage Of VMware Tools

If your enterprise uses VMware, make sure you’re using all the available tools. VMware has released several tools to make it easier to manage VMs (virtual machines). Previously, for instance, a virtual network switch had to be created and managed on each ESX server system, but now you can create virtual switches that cover multiple ESX hosts using vSphere. This basically saves time by getting rid of several configuration and administration duties.

vSphere contains a host of other management functions that IT managers can take advantage of in virtual environments. “With vSphere, a new processor can be reassigned to a different workload automatically based on it having a low utilization level,” says Paul Maritz, CEO of VMware. “It moves VMware management to the next level by creating a completely fluid environment.”



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How To

Decide On A Security Suite

Is Hosted Or In-House Better For Your Enterprise?

by Holly Dolezalek
• • •

FIREWALL? CHECK. SPAM FILTERING? Check. Separation of duties, intrusion detection, sign-on and authorization for Web applications? Maybe. Security is a regular preoccupation for IT managers, but it means different things to different people. That’s why some companies take advantage of security suites—bundles of products that protect the enterprise from one set of threats or another. But after identifying the threats that require a solution, IT managers have another decision to make: hosted or in-house? For example, should they choose a filtering and spam package that includes an appliance for email filtering or one that routes company email to a vendor for filtering?

Hosted Security

The advantages and disadvantages of hosted security vs. on-premise or in-house

security are, in many ways, the same as for any type of application. For example, with any SaaS application, a company can evade some infrastructure costs. Having a vendor supply the appliances, bandwidth, and the data center space and cooling for those appliances means avoiding the costs associated with that infrastructure.

It also means being able to redistribute the staff time that would ordinarily be used for those applications to other tasks. Companies with small IT staffs often use a hosted approach, so they can benefit from the vendor’s expertise instead of having to employ it themselves.

Hosted applications can also allow a company to calibrate what they spend exactly to what they need. Some vendors offer enough flexibility in pricing and licensing, so customers can scale back or scale up quickly, depending on changes in their workforce.

But the costs of hosted applications tend to climb over time. Although hosted applications don’t require much up-front investment, they do require ongoing fees, whereas on-premise or in-house applications tend to be a one-time expense. That means that cost of ownership decreases over time with on-premise applications and increases for hosted applications. “SaaS does have a lower cost of ownership, but not as you extend the time period and increase the number of users,” says Beau Roberts, global marketing director for BitDefender (www.bitdefender.com), a security software company.

In-House Solutions

In-house solutions also obviate a potential headache with SaaS: data sharing. Companies that use in-house applications don’t have to share the data they’re trying to protect with anyone, and that can be a big selling point, especially if the company has to comply with regulatory issues (such as healthcare companies, which are federally mandated to keep patient data private).

Then, too, companies that stick to in-house solutions have more control, at least in theory, over what happens both to their data and their infrastructure. For example, software upgrades are at the option of the user rather than the hosting vendor, which would make the decision about when and how to deploy patches or upgrades. Also, while the company is at the mercy of its infrastructure (and any problems that come up), at least it isn’t at the mercy of anyone else’s. “[SaaS] can lead to a shared-fate scenario, where an outage at the vendor’s data center takes down several clients, or one configuration change affects

everyone,” says Joel McFarland, marketing manager for Cisco (www.cisco.com).

Considerations

Keeping in mind the benefits and drawbacks of hosted and in-house security suites, here are some factors to consider when making the decision as to which solution is best for your enterprise:

What kind of expense do you want your security suite to be: a capital expense or an operating expense? “It comes down to whether a company wants a large capitalized experience or a recurring operating expense,” says Greg Donovan, president and CEO of Alpheon (www.alpheon.com), an IT support company in Raleigh, N.C. “You might pay \$15 to \$20,000 for a spam-filtering device, while if you subscribe to a hosted antispam solution, it’s going to be \$200 a month, at most. Some companies prefer capital expenditures, which will dictate everything being in-house; others want minimal operating expenses instead.”

Is your company growing fast or staying stable? A company that changes over time—whether by growing or shrinking—might have an easier time with the SaaS model because of flexibility in pricing. “Pricing tends to revolve around how many users the company will have in the foreseeable future,” says BitDefender’s Roberts. “If you have to add users or shed them, you can scale up or back quickly.”

Is your company highly distributed or centralized? “SaaS tends to be better [for distributed companies], or at least conventional wisdom suggests it’s easier and more

TOP TIPS

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| • Consider what your company will be like over the next few years and how any changes (or lack thereof) will affect your choice. Is the company growing or facing layoffs? Is it highly centralized or distributed? What are the security | issues you most need to resolve? | or a misfire affect your business? |
| | • Think about how much control you want over your security suite. Do you want to decide when upgrades happen or let a vendor worry about it? How will an outage | • Look at how much you want to spend: a lot now, or a little bit for a long time? What will you save by going hosted, and what will you give up? |

How To

Set Up Tiered Storage

Tips For Creating A System That’s Right For Your Data Center

by Elizabeth Millard
• • •

BECAUSE OF THE INCREASING amount of data and the cost of storing it all, many companies are turning to tiered systems, in which less important or infrequently accessed data is shuttled to lower-cost storage media, while mission-critical data is kept in higher-cost but high-performance media.

Creating these systems can sometimes be tricky, and it takes planning as well as the right tools, says Bob Fine, director of product marketing at Compellent (www.compellent.com): “The whole ‘hope and pray’ method is just not a good strategy.” Here are some tactics for setting up a system that keeps costs in check and data secure.

Understand The Tiers

The terminology of tiered storage can differ from vendor to vendor, but in general, “tier one” is characterized as the highest-performing, most dependable, and fastest storage within the data center. Tier one is often solid-state drives, with no mechanical moving parts, says Fine.

Tier two is usually Fibre Channel, with a high-speed interface, and tier three can be a SATA or SAS drive that tends to run slower but has a very high capacity. Some data centers have five or six tiers, Fine says, but many choose to just have three.

“As you move down the tiers, it’s all about availability, performance, and cost

optimization for the amount of capacity,” he notes. “The low tiers aren’t bad tiers; they’re just storage areas for data that’s either less important to the organization or doesn’t need to be accessed as frequently.”

Analyze & Classify First

Buying the necessary storage devices is a given, but also on the shopping list should

to meet with other departments during the process of tiering the storage, says Fine: “Most administrators don’t know the nature of the data being stored on the systems, so they have to have conversations about what data is in play and the relative priority of that data.”

One of the biggest challenges of setting up a system isn’t in the technology, but in these conversations about data priority, he adds. Every department tends to think of its data as the most vital, and some executives tend to be sensitive about having limited access to older files. Coming

“The whole ‘hope and pray’ method is just not a good strategy.”

-Bob Fine, director of product marketing at Compellent

be some type of data classification application, notes Fine. He says, “There needs to be some way to really determine what data is in use and what the attributes of that data might be.”

This type of software can crawl through data to identify discrepancies in file sizes and duplicate files and also gives information on how often data is accessed within a certain amount of time.

Data usage patterns can also give insight on how much data is being stored; where it’s located; its age, type, and date of last change; and other critical parameters, notes David Cottingham, director of global services for data center and storage solutions at Dimension Data (www.dimensiondata.com).

This type of information can be particularly useful when a data center manager has

into the conversation with data usage stats can prevent this kind of interpersonal tussle.

Ask The Right Questions

Before making changes to a storage environment, answer some vital questions about the overall goals and details of the strategy. According to Dimension Data’s Cottingham, here’s what to ask:

- What is your annual storage spend rate?
- Do you have a goal in mind to reduce that rate and a plan to achieve the goal?
- How much stranded capacity do you have in your current environment?
- What are your long-term data retention requirements, and are you affected by HIPAA, Sarbox, and other regulations regarding data retention?

TOP TIPS

- | | | |
|--|---|---|
| • Develop a system for data minimization before implementing a tiered storage strategy. By weeding out redundant or duplicate data, the information infrastructure can be optimized, leading to storage cost reductions. | • Bring in consultants or other experts who have an understanding of vendor approaches to storage tiering, because vendors can differ in what they offer. Make sure the consultant understands the architectural and operational best | practices that will best meet the needs of the business. |
| | | • Refine the tiered storage strategy by running checks on data usage and access patterns. As the company evolves, the storage architecture should, too. |

cost-effective with a remote structure,” Roberts says.

What will the security applications have to be integrated with? You may have to make numerous customizations to the suite you get, and they will likely have to work with other related applications. “On-premise suites are going to be easier to customize than SaaS, because if your software is running on a hosted server, you’ll have to rely on the host’s customization capabilities or negotiate with the vendor,” Roberts says. “On-premise tends to be easier, too, in situations where you have to integrate the suite with another application, because most on-premise solutions use some sort of open database where you can code modifications to it.”

What does your IT department look like? If your IT department is small, with just a few generalists, SaaS might make more sense. You can rent the expertise of a vendor so that getting it all to work together won’t be your headache. “How often do you want new versions of your firewall or your intrusion prevention system? How often do you want the patches for Microsoft vulnerabilities? Who will do them, and what’s the cost?” asks Jim Freeze, chief marketing officer for Crossbeam Systems (www.crossbeamsystems.com), a security software company in Boxborough, Mass. “It all comes back to what you’re trying to protect and your security policy.”

What compliance or regulatory concerns does your company face? Do HIPAA or other government regulations dictate who can see your data and who can be in control of it? If so, the decision may be made for you.

The Best-Suited Solution

The very choice between hosted or in-house may be a false choice. Some security

Key Points

- Although security suites come in bundles, that doesn’t mean you have to choose only hosted or in-house. Decide what’s best for your company and find the vendor that can provide it.
- Both in-house and hosted solutions offer advantages and disadvantages, but it all depends on what you’re trying to protect and how you need to protect it.
- Any compliance or regulatory requirements that affect your company have to be considered before making a choice about hosted or in-house.

applications may be best handled with a hosted solution, while others may be more easily dealt with in-house. The main thing is not to let artificial choices dictate what you do, because the best solution for your company may be a mix of many choices.

“I think you really have to judge each application separately, because each has a different cost-benefit and cost-of-ownership calculation,” Roberts says. “I would warn anyone to do their due diligence and not get sold on one or the other based on one of those calculators, because there are a lot of cost-of-ownership or ROI calculations out there and plenty of them questionable. Do a calculation with more than one as a sanity check.”

Finally, sniff any vendor you choose very carefully. “Make sure you investigate any vendor’s track record with reference checks with customers or queries to industry analysts like Gartner to get an objective opinion,” Crossbeam Systems’ Freeze says. “Also, ask the provider to give a track record of metrics that demonstrate their ability to meet them over a period of time.” P

Key Points

- Understand data usage patterns in order to tier storage properly but also to have that information available for conversations with other departments.
- Look at your annual spend rate, goals, regulations, and application performance before investing in tiers.
- Implement an archiving tier first.

example, flash drives are quickly becoming cost-effective for high-performance requirements, and high-speed Fibre Channel is still popular for this tier, as well,” notes Cottingham. Lower-cost tiers might constitute SATA or SAS drives, but tape is still in play.

“Tape, while less prevalent as a backup and restore medium, is still in use for long-term offsite storage and specific application requirements, such as streaming video on-demand,” he says. “Seek out vendors that have a clear strategy to support automated storage tiering.”

The biggest pitfall in the whole strategy is seeing increases in storage spend without achieving the expected return, he adds. This can occur if a data center manager didn’t perform the required due diligence, such as assessing the current storage environment, forecasting the expected savings, and architecting the optimal solution.

Cottingham notes, “Inadequate up-front planning can also introduce poor application performance and higher storage administration costs. Again, advanced analysis and proper design of architecture and operational best practices are key to avoiding these costly mistakes.” P

CLIENTS



- dtSearch products have received hundreds of excellent press reviews.
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The Smart Choice For Text Retrieval® Gets Better

dtSearch Version 7.6 Releases Extend 64-Bit Capabilities In Enterprise, Developer Products

dtSearch, a leading supplier of enterprise and developer text retrieval software, has extended its 64-bit product line. The new release covers both dtSearch’s enterprise and developer products, including native 64-bit versions. For the developer products, the new release provides expanded sample code for use with Microsoft’s most recent Visual Studio version. For the enterprise products, the new release updates the user interface, providing a greater selection of “look and feel” options for users.

The Version 7.6 release includes: **dtSearch Desktop with Spider**, which instantly searches files on a PC, and **dtSearch Network with Spider**, which searches across a network. Both instantly search and display, with highlighted hits, a variety of file types, including email messages along with the full text of email attachments. Through the Spider, both applications can also add Web content to a local or network search.

dtSearch Web with Spider quickly publishes a large volume of instantly searchable data to an IIS Internet or intranet site. dtSearch Web works as a point-and-click solution, with no programming required. The Spider provides integrated support for local and remote Web site data.

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The dtSearch Engine lets developers add dtSearch functionality to 32-bit and 64-bit applications. The **dtSearch Engine for Win & .NET** supports C++, Java and .NET, including a .NET Spider API. The new release provides expanded sample code for use with Microsoft’s most recent Visual Studio version. The **dtSearch Engine for Linux** supports C++ and Java.

The dtSearch product line features: **Terabyte Indexer.** dtSearch products can index more than a terabyte of text in a single index. They can also create and simultaneously search an unlimited number of indexes. Indexed search time is typically less than a second, even across terabytes of data.

File formats and databases. dtSearch products include integrated file parsers and

converters for a wide range of popular file types. dtSearch products display existing Web-ready content (HTML, PDF, XSL/XML, etc.) with highlighted hits, and with all images, links, and formatting intact. For other file types, such as MS Office, OpenOffice, and ZIP, built-in proprietary converters render these document types as HTML, with highlighted hits, for display in a Web browser. The dtSearch Engine includes a data source API for indexing SQL-type databases and other non-file data, including BLOB data.

Spider. The dtSearch Spider adds local or remote Web site content to a searchable data collection. The Spider supports public sites, intranets, HTTPS, password-accessible sites, and forms-based authentication sites. The Spider supports both static and dynamic Web-based content, including ASP.NET, PHP, MS CMS, and SharePoint, indexing to any level of vertical or horizontal depth. dtSearch products support integrated searches of local and remote content, including WYSIWYG hit highlighted display of Web-ready data.

Search features. Full-text and fielded data search options include: distributed or federated search options with integrated hit-highlighted display, fuzziness adjustable from 0 to 10 (to sift through typographical and spelling errors), synonym/concept/thesaurus (through a built-in thesaurus and/or user-defined synonym rings), Boolean (and/or/not), phrase, phonic, wildcard, bilateral proximity, directed proximity, stemming, natural language/vector-space relevancy ranking, variable term weighting, positional scoring, field-based relevancy ranking, data classification and filtering objects, numeric range searching, advanced date recognition, unindexed search (in addition to indexed search), and special forensics search options (text filtering of forensically-recovered data, credit card search, email search, etc.).

International language support. Built-in Unicode support covers hundreds of international languages (including right-to-left languages and Chinese/Japanese/Korean character processing options).



Q2 Venture Capital Investments Rise, Still Sit At Mid-1990s Levels

The latest MoneyTree Report from Price-waterhouseCoopers and the National Venture Capital Association indicates that U.S. venture capitalists invested \$3.7 billion into companies via 612 deals during the second quarter. Based on data from Thomson Reuters, the report states that the money total represents a 15% increase from the first quarter, but total deals essentially remained even with Q1's 603 deals totaling \$3.2 billion. Worse, based on the \$6.9 billion in investments made during 2009's first half, "the full year will most likely mirror the venture investing levels seen in 1996 and 1997," when levels ranged from \$11 to \$14 billion. Overall, the life sciences sector, which combines the biotechnology and medical devices industries, rose 47% to \$1.5 billion on 160 deals and represented 41% of all Q2 2009 investment money. Among individual industries, biotechnology led in capital investments, growing 54% to \$888 million on 85 deals. Software ranked second at \$644 million on 135 deals, Internet companies dropped 15% to \$524 million, and clean technology grew 15% to \$274 million.

Yale Computer Science Department Creates HadoopDB Hybrid

Together with his students, Daniel Abadi, computer science professor at Yale, has released an open-source parallel database that supports PostgreSQL, Hadoop, and Hive. Combining the capabilities of MapReduce and DMBS technologies, HadoopDB accepts queries in the World Wide Web and SQL, in addition to MapReduce. HadoopDB produces query plans that are managed in Hadoop and PostgreSQL instances. Professor Abadi recently co-authored and released research that revealed that relational databases are preferred over MapReduce and Hadoop. However, he says the latest hybrid research doesn't refute the previous findings but rather addresses the need for the consistent growth of systems such as HadoopDB.

IBM Acquires Ounce Labs . . .

IBM has announced its purchase of Ounce Labs, a software security provider, for an undisclosed amount. The Waltham, Mass.,-based company develops tools used to scan application source code during development to identify security vulnerabilities or areas where the software would fail to comply with regulations such as PCI DSS (Payment Card Industry Data Security Standard) and HIPAA. IBM says it will integrate Ounce Labs into its Rational software business, which provides security and compliance testing, and combine its products with the IBM Rational AppScan line. IBM says that, in addition to scanning software that is still in development, Ounce Labs' tools will allow it to test and fix code in legacy applications, as well.

. . . & Buys SPSS, Too

IBM also plans to buy SPSS, a data mining software developer, for \$1.2 billion. The move will serve to enhance IBM's Smart Analytics System, its Business Analytics and Optimization Consulting organization, and its Analytics Solution Centers. SPSS software enables enterprises to predict product sales and aggregates data from numerous health and human services organizations. SPSS integration will incorporate predictive analytics technology, used to identify credit fraud and contact customers based on its tracking and classification capabilities.



Data Center Cooling: Room Considerations

Does The Size & Shape Really Matter?

by Chris A. MacKinnon

. . .

ASIDE FROM GENERAL COOLING ISSUES, it's not often that you stop to consider how the shape and size of your data center impacts data center cooling. Questions surrounding this issue that are sometimes overlooked include: How does ceiling height affect cooling? Do larger spaces present challenges when you don't need all the space? Do rooms with awkward shapes or other obstructions impact cooling? And, how do you go about gauging the "coolability" of a room?

Consider The Dimensions

Wally Phelps, product marketing manager for AdaptivCool (www.adaptivcool.com), says as IT equipment becomes denser and more capable, many data centers are finding that space is not causing the same concerns as it used to. The biggest result for many, he says, is unused space in the data center.

Phelps says moving air unnecessarily long distances costs fan power and promotes mixing CRAC (computer room air conditioner) return temperatures, which hurts efficiency and capacity. "If a data center is much larger than needed, hopefully there is opportunity to condense the IT equipment into a portion of the site, along with the ability to close off all floor openings and remove perforated tiles from the unused areas," says Phelps. "There is also the opportunity to shut down CRACs in unused spaces. In fact, if these CRACs are not shut down, they will inject vast

Coolability Factors

Wally Phelps, product marketing manager for AdaptivCool (www.adaptivcool.com), offers the following factors to consider when determining a data center's "coolability."

- **CRAC orientation.** The CRACs should be at the ends of the rows to allow cooling and heat to flow easily in and out of the rows with the minimum amount of mixing.
- **Raised floor height.** As a general rule, a 10,000-square-foot data center should have a minimum of 2 feet. Smaller sites can get by with less; larger sites need more.
- **Underfloor obstructions.** Obstructions close to CRAC units cause the most problems. As you get farther away from the CRACs, they become less intrusive. Cable trays and other large obstructions should be limited to the hot aisles if possible.
- **Shape.** Square or rectangular rooms will usually be easier to cool.
- **Floor cutouts.** These should be small enough so that excess air is not leaking out to spaces that don't need cooling.
- **Ceiling height.** It is often difficult to get good return air paths below 9 feet.
- **Ducted ceiling returns or containment.** These always improve the coolability of a data center when properly engineered. Special attention must be paid to local fire code enforcement, which varies widely.
- **Blanking panels.** These prevent recirculation of hot air from the back to front of a rack. If there is not enough CFM (cubic feet per minute) being delivered to the front of the racks, blanking panels won't help.

quantities of relatively warm air under-floor, affecting the rest of the site."

James A. Stark, design and build manager for Electronic Environments (www.eecnet.com), says the size and shape of a data center can impact the ability of CRAC systems to adequately cool the heat loads. Stark says, "Larger rooms will typically require a greater number of CRAC units due to limitations on air delivery of the units. So, although a single unit may have the BTU (British thermal unit) capacity to cool a given load, it may be unable to effectively deliver the cool air if the load is spread out in a large room."

Stark says odd shapes and obstructions also present air delivery problems and can be especially problematic when trying to achieve redundancy of CRAC units. "These limitations apply mostly to traditional CRAC units which deliver air through a raised-floor plenum or overhead ductwork," he says. "In-row cooling solutions can overcome some of these limitations since the units are placed close to the heat load, and redundant units can be placed in the rows, as well." He says for raised-floor applications with traditional CRAC units, fan-tray supply diffusers and return-air fan products can improve air delivery, redundancy, and efficiency.

Having worked with and modeled many different types and shapes of data centers, Phelps says he finds that data centers with alcoves, L shapes, or two large rooms connected in a disjointed fashion also create problems. He notes, "Consistently, we find these are really two separate environments with little in common when it comes to airflow and cooling. In cases where moderate-density equipment has been placed in an alcove or other similarly obscured part of the room, some type of assisted or active airflow is usually necessary to move cooling in, move heat out, or both."

Ceiling Height

According to Stark, high ceilings are typically better because they provide space for the return of the heated air to the CRAC units. He explains, "This limitation is less of a concern for in-row cooling solutions. However, fire protection codes require minimum distances from the IT cabinet tops to sprinkler heads in many jurisdictions. There may also be other systems such as power and data cabling that require space above the cabinets. So, the ceiling height needs to be coordinated with the entire data center design."

Phelps, on the other hand, says whether ceiling height affects cooling largely depends on how well the room is laid out. In his opinion, if there is a proper hot aisle/cold aisle layout with CRACs placed at the ends of the rows with at least 36-inch wide hot aisles and 48-inch wide cold aisles, a ceiling

Key Points

- If a data center is much larger than needed, look for opportunities to condense the IT equipment into a portion of the site, along with the ability to close off all floor openings and remove perforated tiles from the unused areas.
- As for gauging a room's "coolability," there are many factors, but they all come down to how efficiently the right amount of cooling can be delivered from the cooling units to the rack intakes, and then how efficiently the warm air can make its way back to the cooling unit returns.
- High ceilings are typically better because they provide space for the return of the heated air to the CRAC (computer room air conditioner) units. Ceiling height needs to be coordinated with the entire data center design.

as short as 8 feet can work. It's difficult at 8 feet to use overhead cable trays, however, so a 9-foot minimum is recommended to keep data cables out of the raised floor.

Phelps adds, "If the room does not have a proper hot aisle/cold aisle layout, then more ceiling height will help promote a lower resistance path to the CRAC returns. In this case, higher ceiling heights can also be used to promote a stratification layer where hot air collects at the top. The CRAC returns can be raised up to at least 2 feet below the ceiling to collect the hottest possible air." He says if there is a suboptimal layout and a low ceiling, then active airflow devices can come into play to force the air away from its "lazy path" and direct it to racks or CRACs as needed.

Coolability

As for gauging a room's "coolability," Phelps says there are many factors, but they all come down to how efficiently the right amount of cooling can be delivered from the cooling units to the rack intakes, and then how efficiently the warm air can make its way back to the cooling unit returns. The enemy at all times, he says, is the mixing of hot and cold air.

Stark says when gauging a room's coolability, data centers with rectangular-shaped rooms and few obstructions (below or above the raised floor) are preferable. He says, "The most effective and efficient way to cool the loads is to locate the cooling units relatively close to the loads. Higher ceilings are generally better, although some in-row solutions rely on aisle containment, but other systems such as fire protection, power wiring, and data cabling also require dedicated space. The dimensions of the room will ideally allow for a hot aisle/cold aisle layout of the server cabinets." ■

“Larger rooms will typically require a greater number of CRAC units due to limitations on air delivery of the units. So, although a single unit may have the BTU (British thermal unit) capacity to cool a given load, it may be unable to effectively deliver the cool air if the load is spread out in a large room.”

- Electronic Environments' James A. Stark

Growing A Data Center On A Budget

Focus On Consolidation & Power Needs

by William Van Winkle

COUNTERINTUITIVE AS IT MAY SEEM, growth doesn’t always stop when the budget does. Even with IT in the grip of freezes and cutbacks, many enterprises continue to find themselves with increasing IT needs. Small companies still find themselves needing to grow from having a data closet to a bona fide data center, and medium-sized enterprises still find themselves chafing at the boundaries of their existing data center infrastructure. Expansion must happen for the health of the company, but how can this be done under such constrained funding?

Less Yields More

“The No. 1 thing you should do is derive efficiency from what you already have in place,” says Forrester Research analyst James Staten. “The whole cost of adding on or increasing capacity and so forth is going to be very expensive, and it’s also just putting off the inevitable—eventually, you’re going to have to consolidate.” According to Staten, the two top targets for consolidation are compute and storage resources. With compute, the most common approach is to virtualize servers. This can dramatically lower the organization’s footprint along three key data center vectors: space, power, and cooling. Server virtualization will generally consolidate legacy systems on the order of anywhere from 3:1 to 10:1, depending on several variables.

Expert Advice

When expanding data center capacity, many organizations make some common missteps that ultimately waste money. The following experts had some constructive advice for these data center gotchas.

David Hill, Mesabi Group: “People tend to overbuy UPS systems, installing too much capacity. The reason we buy a certain amount of uninterruptible power is to have time to safely cut over to your generator. But if you’re not on generator in 30 seconds, doubling your battery time is probably not going to save you.”

James Staten, Forrester Research: “Cooling is typically over-provisioned, usually because your cooling environment is inefficient. The most common example is to surround the room with CRAC units—computer room air conditioners. That’s why so many data centers feel like a refrigerator when you walk in. But you can buy row containments and get by with less overall air conditioning. A data center does not need to be cold. In fact, you typically want systems all blowing into the hot aisle, where only the backs of systems are facing each other. That hot aisle can get over 100 degrees hot without affecting the performance of your system.”

Mickey Zandi, Ph.D., SunGard: “People often build for capacity at 100%, but imagine you build a data center with 10kW or 15kW per cabinet. The reality is you may start by using 2kW per cabinet. Most data centers use about 10% to 12% of total capacity. Most design a Lam-borghini for driving in the city. And if you consolidate resources you should actually use less.”

Despite the obvious benefits of virtualization to constrained IT resources, though, most enterprises have yet to deploy the technology in a widespread fashion. According to the 2009 SHARE Survey: Total Enterprise Virtualization, only 22% of survey respondents state “they are adopting virtualization on an enterprise scale,” and “23% aren’t even aware what their corporate virtualization strategy includes.” This is despite the fact that the majority of respondents know that virtualization can lower operational costs and reduce data center size.

In some situations, virtualization may not be an option, but Staten still recommends updating systems to more compute- and power-efficient server architectures since this cost will generally still be less than upgrading physical data center infrastructure.

On the storage front, a tiered strategy can be key in lowering costs and resource utilization. Many companies don’t adequately segregate their data according to frequency of use, so too much information stays resident on high-performance servers. Nearline data should be pushed out to high-capacity “enterprise SATA” storage rather than costlier, lower-capacity SAS or Fibre Channel, and more aggressive archiving can reduce the footprint of “active data” even further. Also, investigate employing data deduplication solutions, which will often eliminate 30% or more of an organization’s total data holdings, and use compression wherever it’s feasible. The goal is to reduce the number of drives that spend most of their time running.

When You Must Grow

Forrester’s Staten believes that it’s rare for enterprises to outgrow their physical spaces. Power is usually the scarcest resource.

“The first thing you should do is look at whether you can increase the amount of power per rack by upgrading your power distribution units,” he says. “The average enterprise has about 6 to 8 kilowatts per rack in their standard power distribution. That can normally be upgraded to around 12 kilowatts, which can give you capacity for up to 30% more IT equipment.”

The challenge for small enterprises may be somewhat different. When you only have a rack or two in a closet, space and power are more like brick walls rather than flexible obstacles. In these cases, David Hill, principal at the Mesabi Group (www.mesabigroup.com), advises smaller firms either to colocate into a data center owned by another

“The first thing you should do is look at whether you can increase the amount of power per rack by upgrading your power distribution units.”

- Forrester Research’s James Staten

party or to offload some needs to cloud computing providers. In either case, the solution can be permanent or temporary while more traditional data center build-outs or retrofits proceed at a slower, budget-constrained pace. “There are levels of tiers with data centers, with tier 4 being the highest,” says Hill. “Some of the outsource resources can provide tier 4 reliability—something you just can’t get on your own in a small or medium business. A very small data center or closet probably doesn’t have the raised floors and all the other things you need in a larger data center, but not having that also reduces reliability and availability.”

Key Points

- Consolidation of compute and storage resources, primarily through virtualization and storage tiering, is the top way to prevent costly data center expansion.
- Power is often the most constrained data center resource. Look to offset this through upgraded PDUs.
- Before jumping into a new data center build or retrofit, examine the most cost-efficient colocation, hosted service, or portable container options.

SunGard (www.sungard.com) is one of the largest IT services companies, but even SunGard notes that enterprises feeling a resource pinch should not offload all or even most of their data center needs to a provider. Mickey Zandi, Ph.D., managing principal of consulting services at SunGard, advises existing resource consolidation before anything else, and only then, if power and cooling resources still prove insufficient, should mission-critical systems be offloaded to a services provider.

“If I’ve got five or six cabinets, but I’m out of power, cooling, or space,” says Zandi, “I might look at the two or three most critical cabinets and move them to a hardened facility. Why just the mission-critical systems? To maintain control over the infrastructure. You end up not really doing any CAPEX. Your operation costs over a given number of contracted months might be there, but you don’t have any up-front fees for a retrofit or new build.”

Naturally, one size doesn’t fit all, and there are many reasons why a cloud provider or colocation might not fit an organization. At such times, a data center container might be the best solution. Some enterprises use these for disaster recovery, but midsized companies are increasingly looking at this new option for temporary capacity expansion.

“We see people only filling up half their racks because they’ve got an older data center that’s only budgeted for 6 or 8kW per rack,” says Jean Brandau, product marketing manager for the HP POD (www.hp.com). “That’s enough to run one blade enclosure. If you’ve got power and water available but no rack space, you can take a containerized data center and place it either in the back of

your warehouse or in your parking lot and hook it up to your utilities. You’re not dealing with half-used racks.” According to Brandau, most container inquiries are now coming from “IT-intensive medium businesses” looking for alternatives to increasingly constrained hosted services availability. Mesabi Group’s Hill suggests that cash-tight enterprises consider financing options when evaluating how to expand their data center capabilities. Some of the larger vendors can provide financing directly. “In a lot of cases now,” he says, “paying on an installment plan is a really good idea.”

RIM & Visto Reach Settlement

A definitive agreement of \$267.5 million from BlackBerry maker RIM to rival company Visto has been made between the two companies to settle all outstanding worldwide patent litigation. The terms of the settlement include RIM receiving a perpetual and fully paid license on all Visto patents, a transfer of certain Visto intellectual property, the one-time payment of \$267.5 million, and the full and final release of all outstanding litigation. The settlement brings to an end a legal battle over allegations that RIM was infringing upon four Visto patents regarding the access and synchronization of information over a network.



Unified Communications Market Grows

According to Infonetics Research, the worldwide unified communications market, which consists of unified messaging platforms and communicator software clients, totaled \$523.4 million in 2008—a 16% sequential growth. Infonetics Research forecasts that the unified communication market will nearly double in 2009. In the communicator market, Cisco jumped from the No. 5 spot in 2007 to first place in 2008, and Siemens and Avaya came in second and third, respectively. The worldwide IP contact center market is up 54% in 2008, driven in large part by the transition from TDM to IP and by increased demand in the Asia Pacific market.

GlobalFoundries Builds Facility In New York

AMD spinoff GlobalFoundries has started construction of a new semiconductor fabrication facility in upstate New York. Known as Fab 2, the new foundry will be built on the Luther Forest Technology Campus in Saratoga County. Expected to cost \$4.2 billion (\$1.2 billion of which has been put up by the state), the site should generate about 1,400 direct and 5,000 indirect jobs in the region. The fab will be based on 300mm wafer technology and the 28nm design process initially, with 22nm on the horizon. It should be fully productive by 2012.

Oracle To Purchase GoldenGate

After being partners for more than 10 years, Oracle is planning to purchase San Francisco-based GoldenGate. Oracle believes the real-time data integration vendor’s software will provide its customers with the means to make decisions based on timely information from multiple sources. According to Oracle, the acquisition of GoldenGate will create a comprehensive heterogeneous data integration platform from a single solution. Until the close of the transaction, GoldenGate will operate independently, and the companies have not yet revealed the financial terms of the deal. Over the past five years, Oracle has bought nearly three dozen companies and spent more than \$34 billion in the process.

IT Outsourcing On Decline

Outsourcing activity continues to decline, due in part to current economic conditions, according to a report from TPI. The sourcing data and advisory firm’s TPI Index tracks outsourcing contracts valued at \$25 million or more. It found that new contract awards dropped 7.5% between the first and second quarters. Total value of those outsourcing contracts rose 5%, but the annualized contract value fell 5% from the previous quarter. When comparing the first half of this year to the first half of last year, 11% fewer contracts were made. Mark Mayo, TPI Global Resources Management partner and president, says making year-over-year comparisons is tough, however, because the first half of 2008 was “extremely strong for the outsourcing industry.”

Stats Show Winners, Losers In Terms Of Customer Satisfaction

The most recent performance ratings of global technology vendors from VendorRate are in, showing bad news for Microsoft and Verizon but good news for IBM. The VendorRate Report Q2 2009 indicates that Microsoft Applications' customer satisfaction scores have decreased by 17.9% from the first quarter, for a total score of 64 out of 100. In contrast, IBM Informix scored the overall highest rating at 96. At the bottom of the list was Verizon Communications with a score of 61 for customer satisfaction.

Vendors were rated according to 10 performance categories such as integrity, communication, timeliness, usability, budget, expertise, and effectiveness, rounding out a 100-point threshold. Within the customer service category, both telecom and data services providers posted scores in the five- to six-point range, while software industries topped out at seven to nine points.

Behind The Numbers

Second-quarter results reveal inconsistencies in telecom business. Rick Schaefer, CEO of VendorRate, says, "Telecom services companies have received the lowest scores of any sector since VendorRate began [its] service." Similar to Verizon's scores, Sprint Nextel received a 64, while AT&T Wireless took the highest score out of the lowest-rated vendors with a 67.

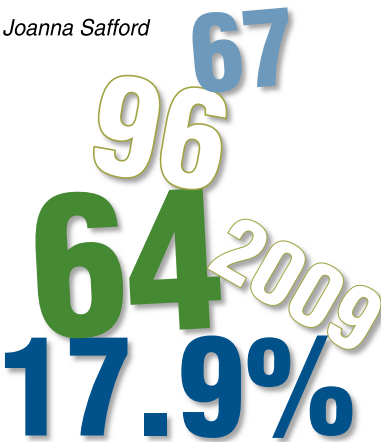
"Scores range consistently from poor to merely average, and customer dissatisfaction seems to be both deep and wide," Schaefer says. "Since the rating data has not identified any telecom vendor with an exceptional customer satisfaction score, this may reflect problems in industry practices as opposed to specific vendor issues."

Schaefer notes that respondents to the VendorRate Report were lenient in their assessments. "We expected many more standard rating scores than we received, and we are continually surprised [by] how much latitude IT professionals give their technology vendor before they give a really poor rating," says Schaefer.

Schaefer adds that many vendors overestimate their level of performance, possibly because of marketing hype or selective perception. Even so, he says, "any vendor that can maintain a score above 85 over an extended period of time is truly doing an exceptional job."

VendorRate's goal with the survey is to be the "Voice of the Customer" by gathering vendor-neutral scores from IT and business professionals who rate their technology vendors. Serving as a data provider, rather than an analyst, VendorRate can produce objective statistics based on the ratings provided by professionals inside the industry, helping SMEs make better purchasing decisions.

by Joanna Safford



A PCI DSS Primer

Understand & Meet Compliance Requirements

by Sixto Ortiz Jr.

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BECAUSE OF THEIR WIDESPREAD USE, credit card numbers are a primary target for data thieves, so securing credit card data is a critical task. The PCI DSS (Payment Card Industry Data Security Standard) is designed to provide for better security management, policies, and procedures within the payment card industry. Businesses that process payment card transactions have obligations under this industry standard.

What Is The PCI DSS?

The PCI DSS, according to the Security Standards Council Web site, is a "set of comprehensive requirements for enhancing payment account data security." Credit card companies such as American Express, Discover Financial Services, MasterCard Worldwide, Visa, and JCB had a hand in developing this standard, with the goal of helping "facilitate the broad adoption of consistent data security measures on a global basis."

Sheldon Malm, senior director for security strategy at Rapid7 (www.rapid7.com), a developer of vulnerability management and compliance solutions, says PCI DSS outlines 12 prescriptive security requirements spanning six control areas mandated by payment card brands. These requirements run the gamut from requiring enterprises to install and maintain firewalls to monitoring and testing of network resources and security systems and processes.

Jon Callas, CTO/CSO at PGP (www.pgp.com), says PCI DSS requirements are important because they let businesses act in reasonably uniform ways. In other words, PCI DSS requirements add the consistency across all enterprises to ensure payment card security is handled in the same manner.

Rapid7's Malm says PCI DSS mitigates risks associated with security compromises and helps maintain consumer confidence in the use of credit cards. After all, the last thing the credit card industry wants to see is a drastic decrease in card use because of a loss of confidence in security.

James Hurley, senior research manager at Symantec (www.symantec.com), says recent research from the IT Policy Compliance Group reveals that almost all the firms with the lowest rates of customer data loss or theft, fewest hours of business downtime because of IT disruptions and failures, and the fewest deficiencies to correct from audits have adopted PCI DSS.

Who Must Comply

Fabian J. Oliva, global PCI competency leader at IBM's Internet Security Systems division, says PCI DSS compliance is required by all entities that store, transmit, and/or process cardholder data. So, adds Oliva, these requirements apply to anyone who touches cardholder data, including retailers, online merchants, healthcare institutions, universities, and banks.

At first glance, it might seem that PCI DSS compliance requirements are the exclusive province of traditional retailers. But, says Ben Goodman, marketing solutions manager at Novell's Compliance Management division (www.novell.com), PCI DSS compliance has a much wider scope. Educational groups, hospitals, governments, and the like

all presently accept credit cards, so these organizations must also comply with the requirements of PCI DSS, he adds.

"The reality is, PCI is extremely far reaching and it is becoming increasingly relevant in virtually all vertical markets," Goodman says.

Complying With PCI DSS

Essentially, says IBM's Oliva, achieving compliance with PCI DSS involves complying with 12 high-level requirements that in turn contain specific subrequirements related to each area. Organizations that have mature and robust information security programs will need to implement and modify security controls, policies, and standards to specifically address the requirements.

But for most organizations, he adds, attaining PCI compliance may entail a deeper level of investment and fundamental changes to many areas within their business, from the processes utilized for software development to human resources, systems management, security monitoring, and others.

In general, compliance with PCI DSS is a four-step process, say Brian Monkman, firewall program manager, and Al Potter, senior consulting analyst, at ICSA Labs (www.icsa.net). First, companies must complete the report of compliance in accordance with the instructions in PCI DSS 1.2. Then organizations must provide evidence of passing a vulnerability scan performed by a PCI Security Standards Council-approved scanning vendor. Once that is done, organizations should complete the attestation of compliance found in the PCI DSS 1.2 appendix, and then submit all of these along with any other requested documentation to the acquirer (whoever set the entity up to process payment cards) or to the payment brand, say Monkman and Potter.

Rapid7's Malm says merchants must be compliant with their level on the PCI DSS requirements scale, which is based on the number of annual transactions. No matter

Key Points

- PCI DSS is a security compliance framework for the payment card industry that ensures consistency.
- PCI DSS affects retailers, along with any kind of institution that manages credit card or personal information from customers.
- Merchants must be compliant with their level on the PCI DSS requirements scale, which is based on the number of annual transactions.

what the level, adds Malm, merchants must use a PCI ASV (Approved Scanning Vendor) to conduct quarterly vulnerability scans for all network systems involved in the transmission, processing, or storage of cardholder data. Merchants, he adds, must achieve and report compliance status from quarterly vulnerability scans conducted by a PCI ASV. If any quarterly scans result in noncompliance, the merchant must remediate the noncompliant components until compliance is achieved and reported, adds Malm. Merchants also must complete a security self-assessment questionnaire outlining security and compliance posture across the 12 PCI DSS requirements.

Problems With PCI DSS?

Philip Lieberman, president and CEO of Lieberman Software (www.liebsoft.com), says PCI DSS is a good idea that has improved the overall security of credit card payment handlers, but it has some serious flaws.

For example, says Lieberman, PCI DSS has a "point in time" audit philosophy. Those on the front lines of payment processing, he adds, implement a continuous auditing process where the principles of PCI DSS are verified on a daily or continuous basis.

Also, says Lieberman, the PCI DSS specs only address the lowest level of threats affecting most merchants connected to the Internet. But, he warns, large institutions with large daily transaction numbers represent a juicy target for criminals that incentivize them to develop more sophisticated threats, such as social engineering attacks, that are not addressed by PCI DSS.

Lieberman also takes issue with the manner in which the credit card industry handles data breaches and the financial penalties that can be levied against merchants victimized by breaches.

"In essence," he says, "we believe it is unfair to penalize merchants for data breaches when the merchant has taken reasonable steps to protect themselves and the interests of credit grantors and processors."

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PCI DSS Requirements In A Nutshell

Build & Maintain A Secure Network

Requirement 1: Install and maintain a firewall configuration to protect cardholder data.

Requirement 2: Do not use vendor-supplied defaults for system passwords and other security parameters.

Protect Cardholder Data

Requirement 3: Protect stored cardholder data.

Requirement 4: Encrypt transmission of cardholder data across open, public networks.

Maintain A Vulnerability Management Program

Requirement 5: Use and regularly update antivirus software.

Requirement 6: Develop and maintain secure systems and applications.

Implement Strong Access Control Measures

Requirement 7: Restrict access to cardholder data by business need-to-know.

Requirement 8: Assign a unique ID to each person with computer access.

Requirement 9: Restrict physical access to cardholder data.

Regularly Monitor & Test Networks

Requirement 10: Track and monitor all access to network resources and cardholder data.

Requirement 11: Regularly test security systems and processes.

Maintain An Information Security Policy

Requirement 12: Maintain a policy that addresses information security.

SOURCE: "ABOUT THE PCI DATA SECURITY STANDARD (PCI DSS)," [HTTPS://WWW.PCISECURITYSTANDARDS.ORG/SECURITY_STANDARDS/PCI_DSS.SHTML](https://www.pcisecuritystandards.org/security_standards/pci_dss.shtml)

Control Operating Expenses

Cut Costs & Consider Long-Term Effects

by William Van Winkle
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WITH NO SHORT-TERM END in sight for today’s resource challenges, many enterprises are searching for better ways to address pain points. Server hosting provider StrataScale’s recent survey asked IT professionals to identify the biggest challenges they faced. The winner for most critical concern was cost efficiency, the most critical factor for 37.5% of respondents. Runners-up were performance (23.2%) and security (10.7%).

StrataScale (www.stratascale.com) also found that the most common biggest challenge faced by IT professionals was a lack of resources to support the IT environment, while the most common second biggest challenge was a shrinking budget.

Obviously, these factors all tie together. The difference between lack of resources and shrinking budget may often come down to semantics. Efficiency costs money, and it’s tough to keep up on standards in performance and security when your resources are bleeding away. But the bleeding can be stemmed and the organization made to run more effectively through better expense control.

Infrastructure First

“In any enterprise,” says StrataScale director of operations Paul Massie, “if you’re the CIO, you have infrastructure stuff and application stuff. If you screw up on applications, you break even, and if you do it well, you get big kudos. But infrastructure is different. If you do it perfectly, nothing happens, and if you make any mistakes, you get crucified. So whenever anyone asks the CIO to cut costs, he always looks at the infrastructure side first.”

Among infrastructure costs, staff is one of the biggest expenses. Managers in particular get expensive—especially those deeply trained in areas such as SAN architecture, Cisco management, and so on. A technician versed in these technologies isn’t necessarily as valuable to a company as the same technician with business and management skills. Unfortunately, some organizations, especially those that have been recently acquired, are prone to axing by salary size without first examining knowledge assets. The right manager at \$100,000 could be worth two or three at \$70,000 each. And should that technical knowledge be lost to the organization, it may still have to be brought in on a contract basis, without the managerial benefits along with it.

Relatively fixed infrastructure costs can be the most difficult to work with as conditions change for the organization. For example, take the power and space concerns of continuing growth even as budgets are being cut. If a data center is only partially filled, space isn’t an issue. But when the data center is full or there’s no power available for additional equipment, costs can become astronomical. Simply importing power from across the building might cost \$5,000, according to StrataScale’s Massie. From the street, costs jump to \$50,000 or \$100,000. And if there’s no power available on the street, costs start in the six-figure range—costs few CIOs today are willing to approve. In such situations, enterprises increasingly are having no choice but to turn the operations needing this expansion over to service providers.

Servers & Storage

Of course, there are ways to postpone needing external help. Hardware consolidation is one. If 500 servers drawing 500W each can be consolidated into 50 servers drawing 700W each by way of increased performance and virtualization, then net power consumption (and possibly overall IT man-

agement time of those systems) drops precipitously. Power bills go down, and the need to bring in more power or move into a higher-capacity building disappears . . . for a while.

The same idea applies to storage. Charles King, principle analyst for Pund-IT Research (www.pund-it.com) notes that, downturn or no downturn, companies are still “seeing a doubling of storage capacity needs every 16 to 18 months.”

Not much can be done to cut back on transactional tier 0 and tier 1 storage systems, but many companies have nearline and archival systems that predate the rise of “enterprise SATA” drives, which feature IT-class 1 million-hour or greater MTBF ratings while still veering closer to consumer-class pricing than traditional SCSI or SAS options. Moreover, with enterprise SATA drives now reaching 1 to 2TB capacities, older drives might be consolidated on a roughly 10-to-1 ratio while nearline racks housing these new drives will likely draw less total power than their unconsolidated predecessors.

Increasingly, though, enterprises are turning over their lower-tier storage needs to cloud-based operations, which not only solves many companies’ capacity needs but also likely does a better job at handling data security and best practices.

“A majority of your small to medium companies do not have an offsite component typically built into their data protection strategies,” says Jeff Cato, vice president of marketing at CoreVault (www.corevault.com). “So they have costs to transport, store, and restore that data if it’s lost. Then you have tape drives and software maintenance costs. Also look at your time and personnel. Today, you have a huge, growing demand on resources that are becoming more scarce, and this is why companies look for solutions in automation.”

According to StrataScale’s Massie, CIOs are increasingly leaning on infrastructure managers to migrate anything and everything possible—especially servers, network switches, and storage units—out of the data center, not only as a means of cutting costs but also of gaining a competitive advantage.

In Or Out?

Cloud services are only one vector of service provider outsourcing, and outsourcing isn’t always the means to instant infrastructure salvation. The approach is common, observes Rob Enderle, principal analyst with the Enderle Group, but still fraught with potential problems.

“Outsourcing trades off one set of problems you may know something about for another set of problems you may know

Key Points

- Many organizations look to trim the biggest expense first—typically head counts. But losing some employees’ knowledge and skills in-house could turn into even greater expenses when sourced from outside the organization.
- Hardware consolidation, particularly in compute and storage resources, can yield far-reaching savings by alleviating the need to expand space and power costs.
- Outsourcing services can cut many operational costs, but it also has risks in terms of corporate culture and support.

nothing about,” says Enderle. “I haven’t seen that work out very well. In fact, some of the folks that, early in the cycle, had gone to outsourcing now seem to be taking a lot of stuff back in-house again.”

Enderle feels that a lot of problems can creep in due to dealing with entities that, while they offer services at a discount to their U.S.-based competition, are geographically and culturally different from the enterprise. Also, in the stressful quest to find outsourcing solutions, IT managers may feel they’re on unfamiliar ground. In such cases, the tendency may be to pick a big, safe name. Nobody gets fired for buying IBM, right? Not necessarily. Outsourcing won’t relieve managers from needing to be aggressive in defending their company’s needs. “What many people don’t realize is that every one of those ‘good’ providers will give you really good service if you force them to and really lousy service if you don’t,” says Massie.

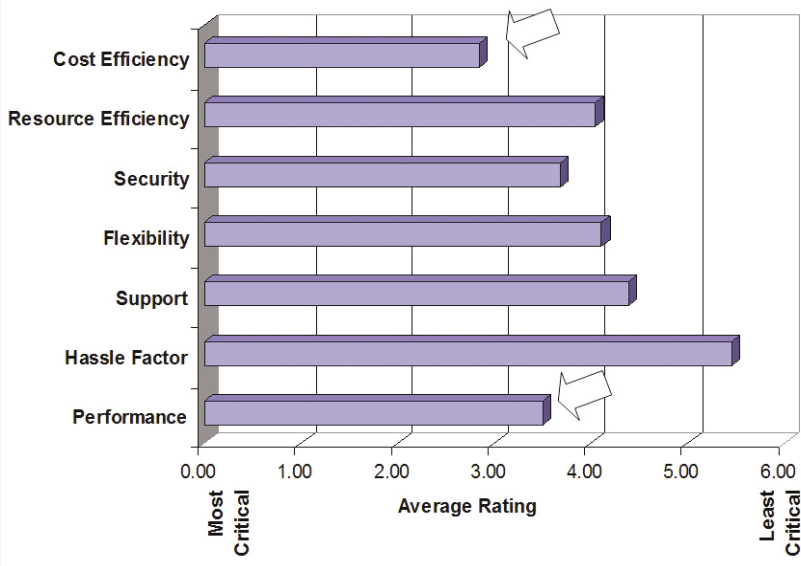
How can services kept in-house be made to run more cost-effectively? One method may be to promote more platform homogeneity. Rather than supporting four or five OS platforms, try migrating to one. Not only could it drop licensing costs, but it will likely lower overall support costs, as fewer specialists will be needed to maintain the systems.

Speaking of licenses, enterprises can trim operational expenses through more aggressive sourcing. In a tough climate, no one can afford to keep buying from the same sources merely out of habit. Put out competitive bids and be objective in analyzing the results.

“That is the key to saving money,” says Massie. “It’s knowledge, expertise, and going through every detail in your whole environment. If you, as an enterprise IT manager, don’t have any ability to do that, find the people or service providers who do. Otherwise, you’re going to end up paying much more than you should.”

Industry Study: Challenges Faced In Managing IT Resources

Many critical concerns are foremost in IT managers’ minds, but according to StrataScale, these seven top the list, with cost efficiency and performance ranking highest.



Microsoft, Yahoo! Sign Search Agreement

It’s official: Microsoft and Yahoo! have finally inked a deal on search advertising. The official Search and Advertising Services and Sales Agreement was filed with the Securities and Exchange Commission on July 29. The team-up is intended to give market dominator Google a run for its money.

The 10-year deal calls upon Yahoo! to sell ads for Microsoft’s search engine, with exclusive rights to premium search advertisers. It also requires Microsoft to provide said search technology for use by Yahoo!, its subsidiaries, and its search customers.



Yahoo! may also decide to make use of Microsoft’s mobile search and mapping capabilities, too.

According to the terms of the deal, Microsoft will pay \$150 million to Yahoo! over the next three years, to be split into annual disbursements. Yahoo! will rake in 88% of the net revenues from the collaboration. After five years, however, the revenue share rate will change slightly to 90%. At that point, should Microsoft decide to cancel Yahoo!’s exclusive sales rights, the percentage for the second half-decade will climb to 93%; if Yahoo! countermands that move and retains exclusivity, the rate will drop to 83%.

Finally, at least 400 Yahoo! employees will move to Microsoft as part of the agreement. Promised competitive wages and benefits, the transfers will also benefit from transition support and a retention plan, according to Yahoo!’s 8-K filing with the SEC. The deal should be finalized by Oct. 27 and implemented within the following two years.

Troubled Past

Microsoft tried to buy Yahoo! outright starting in February 2008. The software giant offered Yahoo! about \$44.6 billion, more than 60% above the value of Yahoo!’s shares at the time. However, that vision didn’t mesh with that of co-founder and CEO Jerry Yang, who turned down Microsoft’s money to court Google instead.

Unfortunately for Yang, the Department of Justice blocked the possibility of a Google deal. Then, in the months following Microsoft’s initial offer, Yahoo!’s stock value dropped precipitously. Shareholders became keenly aware that they could have made a much greater return had Yahoo! agreed to Microsoft’s proposal, and the soured deal is widely credited as the primary reason why Yang has since stepped down.

This summer, Microsoft has brought to the table its new Bing search engine, which has been getting favorable reviews and is gaining ground in the search market, according to SearchEngineWatch and comScore.

by Marty Sems

Study: Government Personnel Not Ready For Cyber Attack

The Partnership for Public Service and consulting company Booz Allen Hamilton have released a report covering the federal government’s ability to defend against a cyber attack, and the results show that the government is understaffed or improperly staffed for dealing with a cybersecurity crisis. The organizations cite four areas of concern: lack of potential candidates for open positions, inadequate leadership of cybersecurity workers, managers and human resources personnel who disagree on what qualifications IT candidates should possess, and hiring processes that don’t encourage potential applicants or offer help to those applying for the needed positions. The study calls for an overhaul of the hiring process and an increase in funding for training.

Internet Access Via Wireless Devices Grows

The Pew Research Center’s Internet & American Life Project released a report on wireless Internet use showing that 56% of adult Americans use wireless devices to connect to the Internet. Types of devices in this category include notebooks, game consoles, and digital music players. About a third of Americans have at some point used a smartphone or cell phone to access the Internet, up from 24% at the end of 2007. Additionally, data shows that on any given day, 19% of Americans connect to the Internet via a mobile device.

Ethernet Services Revenue Grows

According to analysts of Infonetics Research, Ethernet services revenue grew in 2008 and is expected to continue on the path of rapid growth. In 2008, revenue shot up 36% from 2007 to \$16.9 billion, and by 2013, Infonetics expects that number to reach \$33 billion. Largely, this is due to better pricing for newer technologies. The report cites that 100M Ethernet costs about \$50 per megabyte per month, but older DS3s and SONET technologies cost about \$180 per megabyte per month. Further growth is predicted to occur in the 10G speed segments.

EMC Profits Fall, Revenue Rises

Despite its successful bid for acquisition of Data Domain, EMC reported a 43% loss in second-quarter profits, although the results were still stronger than Wall Street had predicted. EMC’s quarterly net income was \$205.2 million, or 10 cents per share, compared to a net income of \$360.1 million, or 17 cents per share, last year. The company gave a forecast that was stronger than expected, which it attributes to better operational efficiency. In January, EMC announced that it would lay off about 2,400 employees in an effort to cut costs.



Companies Overspend On Wireless

Enterprises need to become better at managing wireless voice and data costs by better matching key user segments and requirements, according to advice from Gartner Research Vice President Phil Redman in his report “Best Practices For Managing Mobile Voice and Data Costs.” In the report, Gartner estimates that 80% of enterprises will overspend on wireless service costs by an average of 15% through 2014. Redman outlined four main areas for better managing costs: contracts, international roaming, mobility management, and desk-top replacement.

Government Goes Green

Energy Directives Prompt Agencies To Get In Gear

by Christian Perry

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ADHERING TO GREEN INITIATIVES is a challenge for most organizations. But for government agencies, where red tape gathers like cobwebs in an old house, meeting environmental requirements within a predetermined time frame can seem next to impossible. Nonetheless, as part of the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007, agencies have a deadline of October 2012 to install smart power meters on buildings. Further, agencies have until fiscal 2015 to reduce their energy consumption by a whopping 30%.

“Energy efficiency is the most cost-effective way to reduce greenhouse gas emission, and it will produce long-term savings for taxpayers through reduced operating costs of government buildings,” says Jamie Van Nostrand, executive director of the Pace Energy and Climate Center at Pace Law School. “The government should set an example by striving to implement all cost-effective energy-efficiency [measures] in government buildings.”

Getting Smart With Meters

According to Paul O’Rourke, head of the energy sector of global consulting firm LECG, the primary challenge with the smart meter directive is ensuring that the benefits exceed the costs. He notes that, often, the benefits of installing smart meters don’t convincingly outweigh their installation costs and all the required ancillary investments, unless a pricing program is put in place to encourage low-cost (or off-peak) consumption instead of high-cost (peak) consumption.

“In addition, comprehensive smart meter programs require corresponding investments on the utility side of the meter to be effective. And the utility investments involved with smart meters, such as an upstream smart distribution grid—enhancements to distribution systems to catch the benefits—also make the whole proposition costly to implement. Importantly, all of the costs associated with modifying customer billing systems and customer information systems to capture the real-time data produced by smart meters must also be factored into the cost-benefit analysis,” O’Rourke says.

There is also the question of technological obsolescence. Van Nostrand notes that there is fear around investments in smart meters that the technology will advance

rapidly and that new technology today will be old technology in only a few years. However, he says that upgradeability is a crucial element in the selection of smart meters and other smart grid technologies and agencies should ensure that smart meters can be easily upgraded to accommodate technology improvements.

“The procurement officials at the various government agencies should be collaborating to educate themselves on the available technology and explore possible funding sources,” Van Nostrand advises. “This is a good role for organizations of government officials to play to avoid unnecessary replication of effort and expense at individual agencies. In New York, for example, the New York State Energy Research and Development Authority would provide the expertise to government officials throughout the state to assist in selecting the appropriate technology and in exploring possible funding sources.”

Putting It Together

Implementing smart meters is only part of the larger energy-focused equation, as the 2015 reduction deadline will still loom for agencies that manage (or don’t manage) to meet the smart meter requirement. For Jeffrey Smith, CTO of Numerex

“Energy efficiency is the most cost-effective way to reduce greenhouse gas emission, and it will produce long-term savings for taxpayers through reduced operating costs of government buildings. The government should set an example by striving to implement all cost-effective energy-efficiency [measures] in government buildings.”

- Pace Law School's Jamie Van Nostrand

(www.numerex.com), both initiatives inevitably spawn plenty of questions: What is the stick? If the Marines don’t make the timeline, what happens? Is their contract broken? Are they fired? Who will be responsible—IT? How will they identify what the action plan is once they determine what their energy usage is?

“If they [agencies] begin to think about outsourcing, they will at least put the service-level agreements and incentives in the private sector where they will have a higher probability of effective and on-time deployment,” Smith says. “Rather than installing a more efficient A/C system, think about outsourcing a ‘cool air’ contract at some cost per degree per cubic foot, with built-in incentives to drive energy consumption down. The ‘cool air’ service provider can take the capital risk and may be able to amortize it over an extended period while taking advantage of tax breaks and incentives from government and utilities.”

Different Faces

Because no two agencies are the same, different agencies will face different challenges along the road to more efficient energy usage. One example is agencies with multiple services territories, which will need to implement aggregate tracking of savings, says Anthony Erickson, global utilities industry leader for EDS (www.eds.com), an HP company. Moreover, he says, agencies will need to overachieve in service territories where smart grids are being deployed to accommodate territories that are further behind in smart grid deployments. ■

Turning Out The Pockets

Whether agencies are already working to meet the smart meter and other energy initiatives, help is always available. Jamie Van Nostrand, executive director of the Pace Energy and Climate Center at Pace Law School, recommends that after conducting a comprehensive energy audit to identify all opportunities for energy savings, agencies should explore the possible funding sources for the costs of the energy-saving measures.

“In many states, utilities offer programs that will pay a portion of the costs through rebates or may allow the costs to be paid over time through ‘on-bill’ financing, whereby the initial costs are repaid through the savings generated by the reduced energy consumption each

month,” says Van Nostrand. “In New York, the New York Power Authority is an excellent resource for government agencies seeking to reduce energy consumption, as NYPA can provide the up-front capital costs of the energy-efficiency measures and be repaid from the savings generated by the reduced energy usage.”

Van Nostrand also identifies the stimulus package, or ARRA (American Recovery and Reinvestment Act), as a resource for government agencies seeking revenue sources to implement energy-saving measures. For example, he says the EECBG (Energy Efficiency and Conservation Block Grant) program expressly authorizes spending by local governments for improving the energy efficiency of their buildings.

Why Resist The Cloud?

Hybrid Cloud Solutions Might Be The Answer

by William Van Winkle
• • •

WE ALL KNOW THAT EATING more vegetables and saving 10% of each paycheck are smart moves that pay long-term dividends, yet most of us have reasons for why we don't do such things. Could the enterprise community be treating cloud computing the same way?

The Kelton Research survey "2009 Global Survey of Cloud Computing," released earlier this year and commissioned by Microsoft solutions consultancy Avanade (www.avanade.com), offers a conflicted answer. On one hand, more than 60% of IT decision-makers agree that cloud computing reduces up-front costs, allows companies to focus on their core businesses, helps make an organization more flexible, and lets a company react quickly to market conditions. Yet a 61% majority of those surveyed are not using cloud computing, and 84% of those relying solely on internal IT systems "have no plans to switch to cloud computing technologies in the next 12 months."

Raining On The Cloud

Kelton Research's report cites security fears and loss of control as the two leading reasons enterprises are seeking sunnier climes than the cloud. Cost is specifically noted as not being a concern "in this economic environment," implying that cloud models are inherently less costly than traditional on-premise alternatives. Of course, whether that's true depends on many factors, not least of which are the company's size and in-house IT resources.

As for loss of control, certainly there's some of this. For example, when a company adopts cloud-based messaging, it surrenders a lot of control over customizability and plug-in support for many messaging-related apps. A fax module that's plugged into a local messaging platform likely won't be compatible with an equivalent cloud-based platform. If an enterprise must have this sort of custom-level capability, then the cloud is probably not a good fit for that application set.

For security, there are likewise grounds for concern. The recent hacking of a Twitter admin's account sent shock waves through the IT world. Some viewed it as the perfect example of why the cloud model can't be trusted, but, in truth, the hack had a lot more to do with social engineering, poor policy enforcement, and shoddy password practices than any inherent flaw in cloud computing. If an organization can't adapt itself to practices appropriate to an environment in which information is cross-linked between multiple services—even sources as basic as Twitter and Google Apps—then migrating to the

cloud will be difficult. Even under the best cases, there's bound to be an organization-wide adaptation process.

"Enterprises are used to doing things a certain way, whether it's hardware or resource investment," says Jas Mann, director of product marketing at storage service provider Asigra (www.asigra.com). "As an IT guy looking at cloud computing, I know I'm going to have to learn a lot of things. But at the same time, I think IT managers are realizing that the current way of doing things is not alleviating the pain points they're facing because of the new requirements they have."

Help From Hybrid?

Until recently, the common assumption was that a cloud application was an all-or-nothing affair. A company either migrated an application to the cloud or kept it on-premise, and such a complete commitment may be part of what's keeping many enterprises on the cloud sidelines. This year, though, more and more people are talking about "hybrid cloud" solutions, a somewhat fuzzy term open to various interpretations among vendors and analysts. One common spin on the idea revolves around melding the "public cloud" and "private cloud" with a private cloud bearing a strong familial resemblance to the "extranet" concept from

Controlling Cloud Risk

Most people and organizations resist change. Apart from any logistical hassles associated with migrating to the cloud, perhaps an even bigger roadblock is simply uneasiness with the unknown. All of the ROI calculators in the world won't eliminate the fact that change brings risk. There will probably be issues in any enterprise-scale transition. There will always be reasons not to adopt cloud computing, but chances are good that there are even more reasons to move forward with it.

"Twenty years ago, we were having these conversations about how to tackle business process outsourcing, a new—and at the time scary—way of doing business," notes Larry Beck, senior director of cloud strategy at Avanade. "Today, BPO is a standard way of doing business for most enterprises."

There are now many companies and consultants that specialize in helping enterprises understand the right and wrong ways to adopt cloud computing. Expert guidance on this front is likely money well-spent. Cloud computing can help organizations streamline and innovate their operations, and it's a given that companies able to innovate in the right way and in the right direction will become leaders in their markets.

Key Points

- According to Kelton Research, the majority of enterprises understand the benefits of cloud computing, but most either don't use it currently or have no short-term plans to adopt it.
- The top two reasons that enterprises are keeping the cloud at arm's length are security and loss of control.
- A hybrid cloud model—part public cloud and part private—may be the entry strategy enterprises need to start adopting cloud computing technologies and benefits.


a decade ago. However, Asigra's Mann adds that "clouds are private not because you built them but because of the way you're doing things."


In a May 2009 paper titled "Conventional Wisdom Is Wrong About Cloud IaaS," Forrester (www.forrester.com) analyst Frank Gillett notes, "Firms are interested in cloud services slightly more than internal cloud, not, as conventional wisdom has it, much less than internal cloud." If Gillett is right, then this indicates that public opinion is already shifting to wanting a balanced hybrid internal/external approach.

"You're not going to want to move everything to the cloud," says Adam Couture, principal analyst with storage services at Gartner. "There are certain data types, certain things you're more comfortable with having out there, like archival data, maybe backup data, maybe some collaboration. But you're certainly not going to keep your operating databases in the cloud unless you're doing Amazon's EC2, and in that case, you're probably not an enterprise."

Another example of a hybrid cloud approach might be to synchronize messaging data both to local servers as well as a messaging service provider's cloud resources. Alternatively, one workgroup might use local resources while the next group uses the remote data center. This form of hybrid tactics is one way enterprises can test out the cloud model without that perceived all-or-nothing threat. The growing consensus is that a hybrid cloud approach offers the best of both worlds and may prove to be the key factor in mainstream enterprise cloud adoption.

That said, a rise in hybrid solutions alone won't bring the masses running. Several other pieces remain to fall into place, including ongoing maturation of platforms and the evolution of industry-wide cloud computing standards.

"There are no standards out there at the moment—none," says Gartner's Adam Couture. "The Storage Network Industry Association is in the process of trying to define standards, but they're not there yet. There's no standard around transportability or how APIs can interoperate between public and private clouds. All of those things are 'TBD,' so a lot of companies are waiting for standards to emerge and waiting for big players to put their heads in the ring. A lot of people are going to feel more comfortable buying from an [established company] than a start-up. But those names are coming. I expect it to be a gold rush." 

Regardless of the technological status of current credit card processing systems, the fact remains that enterprises that handle credit card information must comply with the PCI DSS. This is not only a requirement of doing business but is also a sensible step. After all, says Symantec's Hurley, "No one wants a data breach incident where your CIO is on CNN explaining why millions of customers had their data breached." If customers don't trust a company with their credit card information, warns Hurley, a substantial part of that company's business will dry up. 

Report Examines Status Of Worldwide Tech

The OECD (Organization for Economic Cooperation and Development) is reporting that despite the relatively low production of semiconductors, computers, mobile phones, and other electronics, manufacturing has picked up considerably compared to late 2008 and early 2009. At its lowest point, production of IT electronics in Japan, South Korea, and Taiwan was down by about 40% compared to a year earlier. But the latest numbers for South Korea show that it is down just 3% compared to this time last year. Other countries seeing a bounce include Japan, Germany, France, and Britain. In the United States, however, June production was down 15% year over year, but signs show that the IT manufacturing sector is stabilizing.

Verizon Communications To Cut 8,000 More Jobs

Verizon Communications announced late last month that it will cut about 8,000 jobs primarily within its wireline business by the end of



2009. The cuts reportedly represent about 3.4% of Verizon's total workforce of 235,000 employ-

ees and follow in the steps of 8,000 cuts the company made last year. Verizon Communications announced the cuts while reporting its second-quarter earnings, which included revenue rising 11% to \$26.86 billion—due in large part to the company's acquisition of Alltel—but net income for Q2 dipping 21% to \$1.48 billion from \$1.88 billion the previous year.

AT&T Earnings Fall 15%

AT&T announced a Q2 profit of \$3.2 billion (54 cents per share), down from \$3.77 billion (63 cents per share) a year ago. The telecommunications company's profits exceeded analysts' expectations, who expected earnings of 51 cents a share. Sales only dipped slightly (0.6%) to \$30.7 billion, matching analysts' expectations. AT&T ended the quarter with 79.6 million wireless subscribers and added a net 1.37 million subscribers. A new model of the iPhone, released on June 19, likely contributed to this result, as AT&T activated more than 2.4 million iPhones in Q2, more than one-third of which were new subscribers.

Microsoft Quarterly Revenue Down

Microsoft saw a sharp drop in revenue in its fourth fiscal quarter due to weak demand in the global PC and server markets. Revenue fell 17% to \$13.1 billion, missing analysts' forecasts of \$14.4 billion. Fourth-quarter net profit fell 29% to \$3.05 billion. It was the second consecutive quarter that Microsoft posted sales losses compared to year-ago levels. Quarterly sales of the Windows operating system also fell 29%. Microsoft CFO Chris Liddell says the company expects disappointing sales and earnings for the rest of this year and into the first quarter of next year.

CommVault Exceeds Expectations

CommVault has taken advantage of better and more predictable IT spending to post \$60.2 million in revenue for its first fiscal quarter, which is up 9% from \$55 million in the first quarter of last year. The company netted \$2.4 million (6 cents per share) in the first quarter, 31% less than the \$3.5 million (8 cents per share) reported from last year's first quarter; however, excluding special items and stock-based compensation, the company's earnings rose to 15 cents per share. Overall, CommVault still exceeded Wall Street predictions, which said CommVault would only net earnings of 10 cents per share and gather \$58 million in revenue.

A PCI DSS Primer

Continued from Page 32

Even though PCI DSS is a good step, says Lieberman, the solution to the problem is a general upgrade of the credit card processing network to put it on a technological footing similar to what is implemented in the European Union. Namely, he adds, banks and processors need to immediately issue smart cards, PIN generators, and other technological solutions that positively verify the physical possession of credit cards.

"The current AVS (Address Verification System) and CVV (Credit card Verification Value) system has been broken for a long time and only a technological upgrade will solve the problem," he says. Even though PCI DSS should be implemented in any case, the specifications do not solve the fact that static AVS and CVV information is the fatal Achilles heel of the current credit card processing system.

Search Results Dictate Malware Targets

Spammers are taking a close look at what people search for to make their phishing sites, malicious emails, and malware attractive to Internet users. According to MX Logic's August threat forecast, spammers used Google's Hot Trends, a regularly refreshed list of the top 100 search queries, to direct users to malicious sites. Spammers use the popular search term information to dupe Google's PageRank algorithm into promoting their sites. For instance, The New York Times' crossword puzzle has become a favorite red herring for malware-infected sites because the terms used are relatively uncommon, making it easier for spammers to snag Internet-wandering puzzle solvers as they use Google to look up answers. Google frequently culls malicious pages from its index; the search giant must employ both manual and automated processes to scrub the duplicitous sites from its search data.

Google Exec Resigns From Apple Board

Google CEO Eric Schmidt has resigned from his position on Apple's board of directors. Schmidt and Apple CEO Steve Jobs say they agreed the time was right for Schmidt's resignation as the two companies' products and services increasingly overlap. As Google enters more of Apple's core businesses, Jobs says, Schmidt's effectiveness will diminish as "he will have to recuse himself from even larger portions of our meetings due to potential conflicts of interest." Schmidt has been on the board since August 2006.

Sprint Acquires Virgin Mobile USA

In a \$420 million deal, Sprint Nextel has agreed to purchase Virgin Mobile USA. The latter serves a different audience in the prepaid wireless service market, Sprint says, and thus the two brands will continue in a complementary fashion. Sprint already owns more than 13% of the company and will clear more than \$200 million of the acquired company's outstanding debt when the deal closes. The acquisition is seen as a move on Sprint's part to recover lost customers and improve service and profitability.

Study Shows SMEs Ineffective In IT

A study by Web hosting company The Planet revealed that 44% of small enterprises have delayed or canceled IT projects in response to the current economic situation, and when it comes to IT effectiveness, 23% of small companies received a grade of D or F. The study also found that 35% of survey respondents say their IT departments are short-staffed. Only 30% of SMEs have a security program in place, and just 26% have implemented a disaster recovery plan. The study suggests that small enterprises should concentrate on core competencies, seek outsourcing options, use free software, and explore cloud computing.

License To Save

Pay Attention To Software Licensing Costs Or Risk Paying Too Much

by Carmi Levy
• • •

IT'S ONE OF THE MOST THANKLESS JOBS in all of IT: Ensuring the company has enough software licenses for everyone. It can also cost a company if it doesn't pay close attention. Most companies either buy more licenses than they need or risk getting caught with too few licenses. They're usually not trying to get away with gray-area cost cutting; rather, they lack understanding of how software is acquired, deployed, and used.

More effective software asset management tools and processes can save money, reduce risk, and give employees additional flexibility to choose and use the right tool for the job. But like any IT initiative, building this competency demands attention and commitment. And a change in attitude.

"Many companies see this as one of those 'chores' that needs to be done rather than what it is—real asset management," says Jack Gold, president and principal analyst of J.Gold Associates. "How many companies would take such a lax attitude to managing their trucks or office buildings?"

Gold says when individual seats for business software can cost several hundred or even several thousand dollars, the potential savings from more proactive license management can quickly add up.

Keep It Simple

Gold has four key recommendations for companies interested in controlling licensing costs without constraining employees' abilities to get their jobs done:

Calculate the number of users. Avoid buying licenses in bulk simply because the vendor provides a discount.

Share. Save money by buying shared licenses for users who may not need access to a given software package at the same time.

Look at site licenses. Understand the crossover point (namely, the number of users) beyond which it may cost less to move away from per-seat licensing.

Keep a precise inventory. Knowing who has a license and how many you need sets the stage for effective negotiations with software vendors and facilitates better support.

Although Gold says proactively managing usage and needs is critical, best practices vary based on an organization's size. He advises smaller companies to work with third-party asset discovery and management specialists to conduct and maintain updated software inventories and audits. For larger firms, automated tools tend to be more efficient in establishing an inventory baseline.

But automation can only go so far, says Jack Santos, CIO executive strategist with Burton Group. "The usual suspect automated tools are out there that scan the network and concurrent configuration management databases," he says. "But the real emphasis has to be done with business input by ensuring that end users really use what they need."

This is often done by actively monitoring use counts. But even this approach, adds Santos, isn't enough. He says users must be given the opportunity to confirm their need for a given piece of software.

It's an approach that Jeff Gordon, professional negotiator and author of the "Software Licensing Handbook," supports. He advises companies to actively plan current and future business needs and ensure their software roadmap matches those needs. Contract management terms, including maintenance renewal dates and quantities of licenses used and purchased, can be tracked in a simple spreadsheet or a dedicated contract or license management application. What matters, says Gordon, is up-front diligence.

"The trick, of course, is to keep this information constantly updated and completely current," says Gordon. "As most organizations grow organically over time, this would be easy to do if done from the get-go. But most don't, and by the time they think of it, there are thousands of individual licenses floating around that need to be corralled."

Where To Find Additional Help

A partnership between the U.S. Small Business Administration and the Business Software Alliance is helping enterprises learn software asset management best practices and avoid the risks associated with insufficient licensing. The Smart About Software Web site (www.smartaboutsoftware.org) contains free software audit tools, articles, and fact sheets and an interactive Webinar.

"We hope small businesses take advantage of the many educational opportunities available to them that will not only help them ensure proper software licensing and help protect their business from legal liability and financial risks, but will also help a business optimize its software asset investment," says Robert Holleyman, president and CEO of the BSA.

Key Points


- You can't manage licenses unless you know what you have. Full-featured license management software is not an absolute must: Even a regularly updated spreadsheet will do. Build it early and keep it updated.
- Have business managers and users sign off on specific licensing needs. If they can't justify acquiring or maintaining additional seats, don't buy them.
- Ensure license and asset management policies are updated and enforceable.

And as they rein everything in, organizations should also keep an eye on nonstandard applications, which can drive inflated licensing costs. "Companies should establish asset management policies and practices that include routinely running reports on nonstandard software and sending them to business unit managers for review and follow-up," says Steve DuScheid, product manager for Novell ZENworks Asset Management (www.novell.com). "Procedures should define specific levels of escalation and ultimately call for internal 'fines' on cost centers using non-standard applications."

A Question Of Balance

Updated policies may come with a price, however. Although the goal is to keep licenses simple and manageable, these kinds of licenses can often be too restrictive in everyday use. Likewise, flexible licenses can be more expensive.

"On one hand, customers want the greatest amount of flexibility in how they use a product. Usually this means they want to use the product anywhere, anytime, on any machine, by anyone," says Jeff Anders, senior director of product marketing with Embarcadero Technologies (www.embarcadero.com). "On the other hand, customers want or, in some cases commonly driven by compliance requirements, need to have a high level of manageability of their licenses. Specifically they need to control, audit, and report on license usage. They want to know who is using the product and when they're using it."

Burton's Santos says because of the complexity of licensing, hard-to-predict staffing levels, and the economic climate, more companies are rethinking their software strategy. "There is a strong push to move software from a fixed-cost model—buy as much as you will need for peak times—to a variable-cost model where you buy on a per-unit basis like per-user-per-month or per-CPU-usage-per-hour," he says. "That is driving interest in cloud options. . . . That's where the real savings in software costs will come." 

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Managing The Next Wave Of IT Employees

Generation Y Employees Have Much To Offer

by Sue Hildreth

GREG SUDDERTH, CEO OF PRODUCTIFY, would like to break his employees’ penchant for texting at work. So far, though, he hasn’t had much luck. “You tell them no texting at meetings, and they just think that you mean, ‘Text everywhere else a little bit more.’” He’s given up on the hope that they’ll stop texting at work and now simply tries to get them to follow basic guidelines to appropriate texting behaviors.

“We’ve let them know it’s a ‘benefit’ and we’re ‘cool’ with it, but in a discreet fashion,” says Sudderth, noting that non-discreet behaviors have included texting in the

Bruce Tulgan, author of books on Generation Y and the founder of RainmakerThinking, which specializes in consulting and training services for managing generational differences in the workplace, says older managers have a number of myths about Generation Y employees. These include lack of loyalty to employers, reluctance to do menial work, expectations that managers will do their work for them, and disrespect for elder workers.

In reality, says Tulgan, Generation Y employees can be loyal, but they tend to have a negotiable loyalty based on what the company is willing to do for them. Likewise, Generation Y employees will do grunt work, but not if they think it’s a dead-end job with no immediate rewards. Although they don’t actually want managers to do their work for them, they do want plenty of training and feedback on how to do their jobs. And they do respect older workers who have valuable knowledge or a track record of success. They don’t value age alone.

Faster Turnover

Raised in an era of increasingly fast change, corporate bankruptcies, and sweeping layoffs of workers across the country, Generation Y has no illusions that they will be working for the same employer for many years. A survey by Robert Half International found that 40% of Gen Y employees plan to stay at their current position less than two years. Just less than 25% expect to stay for six or more years.

With no guaranteed job security, Generation Y workers aren’t motivated by long-term promises. They’re motivated by short-term rewards.

Another result of the loss of job security in the workplace is that employees have realized they need to acquire new skills to stay marketable. So Gen Y workers want lots of professional development, whether it’s acquiring new technical skills, attending management courses, or working on an advanced project that will look good on a résumé.

Mark Vanderflugt, a 26-year-old programmer analyst for Rain and Hail LLC in Des Moines, Iowa, says he prefers jobs that provide plenty of learning opportunities. “Learning new concepts and new technologies on the job keeps me happy,” says Vanderflugt, noting that he wouldn’t sacrifice professional development even for extra vacation.

What Shaped Generation Y

For most workers, regardless of their generation, the belief in corporate loyalty was destroyed by the massive layoffs of recent years. So what becomes important is the employee’s skill set and his ability to quickly land a new job. For Generation Y, a job that provides them with lots of professional development, challenging learning opportunities, and a chance for reasonably rapid advancement is far more attractive than one that makes vague promises of long-term job tenure.

Today’s older teens and early 20-somethings are a generation that is, for the most part, far more addicted to digital communica-

tions and used to constant and fast changes. Sarah Gibson, founder of Accent Business Communications, a firm that offers training in business management and managing generational differences, notes that Generation Y expects to have access to texting and social networking sites, both for personal and work relationships. Gen Y workers also expect flexibility in when and how they work.

“It’s very much a mixed world for them,” Gibson explains. “They think, ‘If I’m doing work at home, on home hours, then who is to say I can’t do personal things at work during work hours?’”

Gen Y is both a confident group and one that is used to a lot of support and mentoring.

These employees grew up in the “decade of the child,” says Tulgan, which emphasized self-esteem building and discouraged real competition that created losers. Many sports teams give ribbons and trophies to every member, not just the top performers.

Gen X workers, by contrast, were more likely to be ignored and unsupervised and had to figure things out on their own, which can create real conflict when a Gen Y worker asks for too much help from a Gen X colleague. ■

Key Points

- Generation Y needs and wants lots of guidance on how to perform tasks.
- Avoid long-term promises, but provide short-range performance goals and rewards.
- Flexibility in the work environment and plenty of learning opportunities are critical to Generation Y. Also consider rewarding and promoting top performers and bringing them into your core group of trusted employees to retain their loyalty.

bathroom, ignoring phone calls to text, and taking texting breaks.

Sudderth’s frustrations are common among IT managers today, as they and their new Generation Y employees both experience the growing pains of learning to work together.

Children Of Baby Boomers

Generation Y, which comprises those born from about 1980 to 1994, are the children of the Baby Boom generation and nearly as large in number—about 60 million, compared to about 72 million Baby Boomers. That contrasts with 46 million Generation Xers. As the boomers retire, the Generation Y employees will be needed to help fill the gap.

But Generation Y adults don’t share the same view of work or the same expectations of their employers as earlier generations. That has led to some frustrations on the part of both manager and employees.

Do’s & Don’ts For Managing Generation Y

- **Do spell out their future path.** “Within the first week, sit down with new hires and say, ‘OK, this is your plan for the next six months. These are the classes you’re going to take, and these are the skills you’re going to acquire,’” says Sarah Gibson, founder of Accent Business Communications.
- **Do set clear expectations.** Bruce Tulgan, founder of RainmakerThinking, advises setting clear ground rules for all of the important aspects of the job, including how often the employee will meet with a supervisor, how performance will be monitored and documented, and what behaviors are tolerated. Tell them which decisions are within their power to make and which are not in their control. It’s also a good idea to teach them self-monitoring techniques, such as keeping schedules, work logs of projects, due dates and results, or specific skills learned.
- **Do grant small freedoms.** Like Productify’s policy of letting employees text as long as it doesn’t interfere with business, policies that provide flexibility to employees in their work-life and personal style choices can make your workplace more desirable. “If a manager tries to put the kibosh on things like texting and social networking, they’ll think A, he’s really out of touch and B, he’s a tyrant. So pick your battles and don’t sweat small issues like casual dress or loud posters in the cubicle if it has no substantive impact on your business,” Gibson says.
- **Do provide lots of learning opportunities.** Most Generation Y employees view their careers as fluid and changing, and they greatly value opportunities to add new skills to their résumés. They value professional development more than job stability, in fact, because they don’t believe that job stability even exists.
- **Don’t pretend work is a party.** Generation Y employees are smart enough to know that their job isn’t supposed to be fun, nor do they really want it to be. Treat them with serious respect and be honest about work expectations.
- **Don’t pay for poor performance.** Greg Sudderth, CEO of Productify, recommends tying short-term pay and bonuses to short-term performance gains. “If they work sub-hours, we pay sub-salary.” He also recommends starting new hire at 75% of salary and increasing it as they learn the job. Giving lots of small raises is also a good idea, he says.
- **Don’t praise mediocre efforts.** False praise doesn’t help them improve their performance and instead sets them up to expect raises and promotions that they aren’t qualified to get.
- **Don’t let parents into the picture.** “You have to cut out the ‘helicopter parents’ right away,” says Sudderth. “Tell them they can see their parents after hours. Also, don’t let parents in on negotiations during hiring. It’s just going to cripple the worker in the long run.”

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Guard Against Botnets

Constant Surveillance, With Software Help, Can Keep Botnets At Bay

by Jean Thilmany

NEWS OF IT THREATS from botnets or malware typically focuses on larger enterprises, but small to midsized enterprises should also be aware of botnets and malware and the damage they can do.

Although there are really no botnets specifically targeted at SMEs, they are susceptible to attack from even the most common of botnets, say experts in the

antivirus software and a firewall can provide protection, the biggest areas of concern for an SME—email and Web sites—are still left open. Smaller enterprises don’t generally have top-of-the-line spam or Web-content filtering in place, Colwell says.

Phillip Lin, director of marketing at security software provider FireEye (www.fireeye.com), agrees, saying the traditional all-in-one security approaches SMEs tend to have in place can easily be circumvented by stealth malware. The good news is that even SMEs with small staff can take some simple measures to protect themselves against botnets and malware, experts say.

Find The Attacker

For starters, determine if your enterprise’s machines are already being compromised. After that, stay on the lookout for future attacks and take measures to protect against them, Lin says. You’ll need to be aware of how the malware or botnet will manifest in your environment. For example, you won’t see your computers slow down, as infected computers were prone to do in the past, Lin says.

“The malware out there today knows to do its work on a computer when the computer is idle, for fear of calling attention to itself,” he says. “So when all is quiet, there could be an issue.”

One way to determine the presence of an attacker is to scan outbound communications records to find communications to suspicious domains, Maloof says. “Look at your DNS server to see if you have outbound requests to Web sites that end in .ru or .cn,” he says. “Unless you’re doing a lot of business with companies in Russia or China, communication with those countries should be investigated, because a huge percentage of malware comes from them.”

Frequent communication with sites in those countries is a strong sign your IT equipment may be compromised, he adds.

Also review gateway logs to uncover existing issues, Maloof says. “We all know port 80. That’s how we search the Web, and many bots will actually use port 80. But they’ll also use unusual ports like UDP,” he says. “Don’t let that traffic

outside the network. If the botnet can’t phone home, it can’t take over your network or send spam.”

Of course all of this checking can be overwhelming for the IT staff to perform manually, Lin adds. Even small enterprises can consider bringing in anti-malware and antibotnet security software, which detects malware and botnets that have circumvented traditional security technologies, such as firewalls, antivirus, and URL filters, he adds. This type of software analyzes suspicious Web and network traffic flows within the virtual environment. The software will give early warning of infection, letting you quarantine and clean infected machines, he adds.

Keep Bugs At Bay

The best practice is to prevent infection in the first place, Maloof says. The first step here is to establish best practices that you expect all users to follow. Be sure they’re properly trained on botnet and malware prevention, Maloof says. “These are the things everyone talks about when it comes to educating your users, like not opening suspicious emails or clicking on links within emails,” he says.

Inform your users that documents seemingly not directly related to the Web, such as PDF documents that contain live links or JavaScript, can link to botnets or malware, Lin adds.

You’ll also want to regularly update your antivirus software, Maloof adds. “Not too long ago people updated their AV signatures once a month,” he says. “Now it should be at least hourly, but bigger firms often update constantly because things develop that quickly.”

And don’t forgo the endless routine of installing software patches to mend holes through which botnets and malware could slip, Maloof says.


He also cautions SMEs looking to go wireless to choose a vendor and installer with care. “Wireless equipment gives you tremendous flexibility and is so easy to get,” Maloof says. “But it needs to be implemented by someone with a security

Top Tips For Warding Off Malware & Botnets

- **Update your antivirus software frequently.** You might consider daily or even constant updates, as botnets can evolve much more quickly than in the past.
- **Patch software regularly.** Patching can fill the holes in software through which botnets and malware make their way into your systems.
- **Install software that analyzes traffic to uncover suspicious patterns.** Vendors now offer this type of software at rates SMEs can afford.
- **Train your users on methods that keep botnets at bay.** Methods include old-school instructions such as edicts against opening emails from users whose names you don't recognize.
- **Make sure your vendors keep your security in mind.** Any managed service software your enterprise uses should be password-protected and encrypted.

focus, or a person in the parking lot can be scanning all your Internet traffic and can break [the] encryption if it’s not strong enough.”

Also, when you bring in software via a managed service plan, drill your vendor on security issues, he adds. Not every vendor emphasizes security. “Be aware of how concerned they are with password protection. Ask if you’ll have control over your password. Many let you choose a password, and you only need to tell them what it is if you need their help,” he says. Also, ensure the information housed on the vendor’s servers and the information flowing to those servers is encrypted.

The key words are constant surveillance and protection. In the words of FireEye’s Lin: It’s not a pretty picture out there. Stay safe. 

“Wireless equipment gives you tremendous flexibility and is so easy to get. But it needs to be implemented by someone with a security focus, or a person in the parking lot can be scanning all your Internet traffic and can break [the] encryption if it’s not strong enough.”

- TriGeo Network Security's Michael Maloof

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THREE QUESTIONS

Proper Office Furniture Improves Efficiency

Hergo Provides Furnishings For Your Computers & Servers

by Daniel P. Dern

WHETHER IT’S A desktop computer with a keyboard and monitor, six large monitors for an operations center, or half a dozen servers with associated storage, network, power, and cooling gear, every enterprise has computer and IT equipment that has to be put somewhere. And the nature of that “somewhere” can make a big difference in employee productivity, energy and space efficiency, and serviceability.

Headquartered in New York City, Hergo Ergonomic Support Systems (888/222-7270; www.hergo.com) provides functionally engineered modular technical office furniture. The company serves an array of customers that includes Fortune 500 organizations as well as smaller enterprises. Kristen Speranza-Diamond is Hergo’s vice president.

■ What are the biggest IT-related issues facing today’s small to midsize enterprise?

“Being able to afford the equipment and staff they need to keep an efficient operation,” says Speranza-Diamond. “There may be items they’d previously had a budget for that they can no longer obtain, often forcing them to do more maintenance on existing gear or only do minimal upgrades instead of the fuller ones they’d previously budgeted for. Or having to buy more barebones and fewer features, or spread out big

purchases as more, smaller ones over time.” Additionally, having the proper furnishings to house the organization’s expensive gear is vital. For example, Speranza-Diamond says, “If you don’t have the right ventilation in your racks, you risk equipment overheating.”

■ What should Processor readers know about your company’s products?

“We are an OEM of technical computer furniture,” says Speranza-Diamond. “This means anything and everything [you need]

to organize your computer environment, from the desktop to the data center [and] from racking to desktops, accessories, and computer enclosure cabinets. . . . We have educational furniture, and we’ve added a new line of height-adjustable furniture geared mostly to radiologists.”

Speranza-Diamond says her company recognizes that having the right furniture in the data center is important to productivity. “It sets the tone for how productive an office will be,” she says. “If your equip-

they’re fully modular and we don’t change the basic designs, you can order one or two at a time and add later on. And our frames and legs are all 11-gauge steel—the heaviest in the industry.”

■ What makes your company unique?

“Credibility and experience,” says Speranza-Diamond. “We have been around for 20-plus years. And we began in the computer industry, as Eli Hertz’s Hertz Computer Company. In running that company, Eli noticed when he went out on sales calls that there were monitors and keyboards on the floor—there was complete disorganization. That’s why he started Hergo, as the first company to introduce technical furniture solutions for the computing environment.

Also, Speranza-Diamond notes, “Hergo offers the benefits of being a domestic, direct-sale company. “A lot of companies in our industry don’t sell direct to smaller companies—you’d have to go through a dealer or reseller. Call us, and you speak to an informed salesperson.”

Hergo is also unique within the technical furniture industry because it manufactures its own products. “We have a 40,000-square-foot factory with top-of-the-line machinery here in Queens, New York,” says Speranza-Diamond. “We get sheet metal and tubing for legs and frames and build the products ourselves. This makes it easier for us to customize an order, such as a rack or frame with a different height or switch door styles. We’re in a position to take in those jobs that other companies would consider too much of a headache. And we’re in a better position to expedite an order for a customer.”



ment isn’t organized—if you don’t have the right power management or don’t have your monitors, keyboards, and printers accessible—[and] people have to reach over [or] can’t type easily, then you aren’t as productive as you can be.”

She adds, “Our product line combines a variety of interchangeable parts, and most of these are standard components. This makes it easier to reconfigure existing setups or add new IT equipment. Because

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BOOK REVIEW

Go From Pain To Gain

“IT Savvy” Underscores What Top Executives Must Know

by Kurt Marko
• • •

PERHAPS NOTHING HAS HIGHLIGHTED IT’S importance for the 21st Century enterprise more than the explosion of Web 2.0 technologies—first as application platforms, then as harbingers of new business strategies, and now as cultural phenomena.

The convergence of ubiquitous Internet working, cheap storage, blazing-fast CPUs, digitized content, and innovative online applications is upending both business models and corporate processes. The resulting metamorphosis of IT from tactical cost center to strategic asset has left many corporate executives ill-prepared to understand, much less manage, this critical function.

Peter Weill and Jeanne W. Ross, drawing on their work at MIT’s Center for Information Systems Research, provide in “IT Savvy: What Top Executives Must Know to Go from Pain to Gain” a condensed, yet surprisingly comprehensive, primer for managers looking to maximize the value and agility of their IT departments.

Changing Competitive Landscape

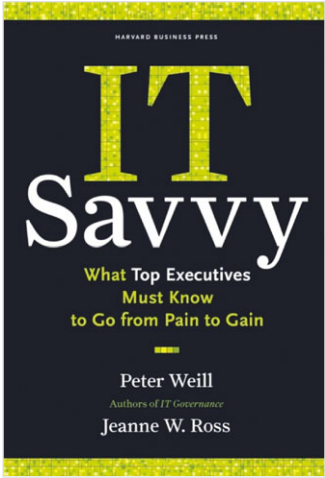
The authors contend that one of the biggest challenges facing today’s business leaders is the changing competitive landscape wrought by the digitization of content and processes. Their premise—that every business interaction, whether with customers, vendors, part-

ners, or the government, is becoming digital—means increased dependence (and spending) on IT. This requires firms to become IT-savvy to optimize their business models and processes for the digital economy.

Rather than a piecemeal manner of acquiring technology for specific business needs, the authors say “IT-savvy firms decide how they want to operate and proceed to build a digitized platform of business processes, IT systems, and data to execute on their operating strategy.” Once ingrained into the corporate ethos, this approach remakes IT into a strategic asset. The authors paint a bleak alternative: “In a global, digital economy, if IT is not a strategic asset, it’s a strategic liability. Ask yourself: in the 21st Century, can you afford to have a liability like that?”

Guiding Managers

The bulk of the book is devoted to guiding managers in building the IT-savvy firm, a transformation that entails fixing what’s broken about their use and management of IT,



“IT Savvy: What Top Executives Must Know to Go from Pain to Gain”

Authors: Peter Weill and Jeanne W. Ross

Publisher: Harvard Business Press

Price: \$29.95

Format: Hardcover, 208 pages

building a digitized operating platform, and then exploiting it to generate profitable growth.

Fixing IT involves first developing a clear vision about the role of IT and its operating model and then building a funding structure that can support long-term strategic initiatives. A key decision facing companies constructing their operating model is the level of IT standardization across the business. Through many anecdotes and case studies, the authors demonstrate that different types of businesses naturally fall into one of four potential models, which differ in the geographic and organizational breadth of standardization.

With a firm IT foundation in place, the next stage of IT enlightenment requires building an optimized, standardized, and reusable digitized platform that can support future growth. The authors stress that, once developed, consistently delivering IT services requires establishing decision rights, accountabilities, and governance policies that drive managers to actions and projects supporting a firm’s strategic goals. This governance framework needs to cover everything from an enterprise architecture and infrastructure standards to

project management processes and IT investment prioritization methods.

Self-Assessment

The book concludes with a self-assessment to help readers determine their personal and corporate level of IT knowledge and wisdom, with advice on leading an IT-savvy firm. The authors conclude that companies get the IT they deserve. Those that frequently change strategies, jump from project to project, have muddled operational roles, and follow a hands-off approach to IT end up with reactionary, ineffective organizations that can’t meet a company’s strategic needs. [E]

KEY CONCEPTS

- ▶ Omnipresent networks, the automation of business processes, and digitization of content have moved IT from a core, but largely tactical, asset to a strategic corporate function. Yet many managers and executives are ill-prepared for this new reality.
- ▶ Transforming IT entails several core activities ranging from developing new operating and funding models to building digitized platforms and governance processes.
- ▶ Deriving value from IT requires a standardized infrastructure and modular, reusable platforms that enable rapid adaptation to changing business conditions and innovative new applications.
- ▶ Being IT-savvy directly affects the bottom line, with leading firms posting profit margins 20% higher than their competitors while spending less on IT operations and maintenance.

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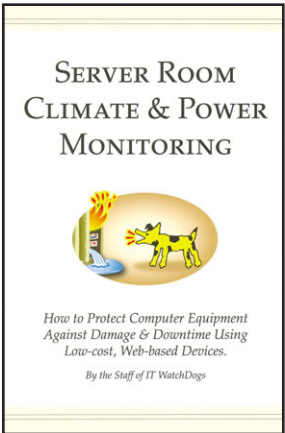
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OPINIONS

INFO-TECH • INSIGHT

Water Wheels, Cold Fusion & The Cloud

How will cloud computing impact enterprise IT? In answering this question, references to water wheels and modern electric utilities will sometimes come up. This is a useful, though deeply flawed, historical analogy. Don't think hydro turbines. Think cold-fusion reactors.

I'll get to that in a moment. First, the waterwheel analogy: This is an idea put forth most famously by Nicholas Carr in his books "Does IT Matter?" and "The Big Switch."

In the 18th century, a business such as a mill would derive power from an internally owned and operated source such as a water wheel driven by a local river. Through to the 20th century, water wheel power was supplanted by inexpensive electricity purchased from external power utilities.

In the same way that the internal water-driven power plant was replaced by the external power utilities, internal information technology infrastructure will be replaced by external compute utilities. Most recently, "the cloud" has been put forward as the likely candidate for this external utility.

A Flawed Analogy

There are a number of flaws in the water wheel to power utility analogy. A big one is that information technology is equated only with processing and transmission infrastructure and not the application of the commodity. IT is the generators and cabling leading to the power socket, but IT is also the appliances you plug into the sockets.

But even in just focusing on the hardware infrastructure of IT, there are flaws. First, it

suggests that a superior, centralized technology will replace an inferior local technology, like the railway steam engine replacing the horse-drawn cart. Second, it paints a picture of historical inevitability, as in corporate IT will go the way of the water wheel.

This is where my reference to cold fusion comes in. In 1989, two electrochemists created a brief flash of excitement in research circles and the general public when they announced that they had created "cold fusion" in a laboratory experiment.

The idea that a safe, cheap source of nuclear energy could be created by simply running some electricity through a bar of palladium immersed in heavy water turned out to be too good to be true. It didn't work. The world went on to other news stories, and the big energy companies breathed a huge sigh of relief.

Millions Of IT Cold-Fusion Generators

Imagine the impact on the energy sector if everybody could have their own safe nuclear reactor the size of a car battery. Who would need the massive turbines of nuclear, coal, or hydro power if anybody could just fire up their own cold-fusion generator? Now imagine what the world would have been like if cold fusion were possible, and it was cold fusion that supplanted the water wheel.

If you are going to use power generation as an analogy for information technology, then IT did have a cold-fusion revolution. The cold-fusion generator is the commodity, open standards-based server and workstation. We have these cold-fusion generators stacked in racks in our data centers, on our desks, in our briefcases, and in our homes.

In this analogy, external cloud computing is not a big turbine-based power utility. It is an aggregator of thousands of cold-fusion reactors. An Amazon-like elastic computer cloud offers economies of scale and cheaply

clusters of generators, and third-party mega-aggregates will all be on the same grid.

Sometimes the electricity will come in. Sometimes it will flow out. Sometimes the meter will count costs, and sometimes the meter will run in reverse, not unlike the way solar-powered homes will sometimes put electricity into the grid rather than drawing it out.

A Quarter-Century Of Cold Fusion

For all the buzz and hype, cloud computing is nothing more than a new label for the latest phase of a revolution that has been ongoing for more than 25 years. The pillars of this cold-fusion revolution are commodity standards-based hardware and the global Internet.

We have already seen a communications revolution where information was unbound from specific systems and could move anywhere. The new phase involves a similar unbinding of processing that has been unleashed by virtualization. The traditional components of a computer can now be dynamically assembled and moved anywhere.

There are profound changes going on here, and corporate

IT has a critical role to play in making sure the enterprise profits from them. There is no historical inevitability. The future is what we make it. Though, to remain relevant, one should avoid being sentimental or nostalgic about the days of the water wheel. [P](#)

Send your comments to infotech@processor.com

JOHN SLOAN

AUTHOR John Sloan is a senior research analyst at Info-Tech Research Group. He has more than 15 years of experience as a technology writer, as well as experience in corporate communication, Web site development, and electronic publishing. His research interests include electronic publishing and communications (including e-learning), disaster recovery planning, desktop computing, and Web application development platforms. Sloan holds a master's degree in journalism from The University of Western Ontario.



metered electricity, and you don't have to buy and install multiple cold fusion reactors to get it.

Will the external cloud eventually supplant all internally owned power generation? That's hard to say, especially as IT cold-fusion generators continue to get cheaper and more powerful. What is more likely is that the personal generator, corporate-owned

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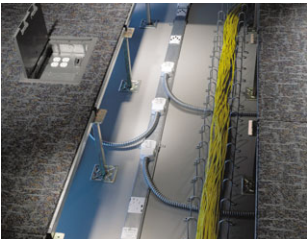
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ASD Knows Its Way Around A Variety Of Technology Installations & Cabling Solutions

by Holly Dolezalek

THE MARKETPLACE NEVER RUNS OUT of companies that need technology that they are unable to install themselves. Whether it's a phone system, a security system, or other types of necessary installations, companies often look to local contractors to put these systems in place and make sure they work.

ASD (Automated Systems Design; www.asd-usa.com) is a Roswell, Ga.,-based provider of voice and data network integration services. The privately held company, which company President Bob Eskew founded in 1986, had about \$17 million in sales last year. Its staff of national service consultants, registered communications distribution designers, account managers, and executives is divided between its locations in Roswell (about 24 miles north of Atlanta) and in Hickory, N.C.

ASD is both a manufacturer and a service provider. Its products primarily consist of structured cabling systems and cable components for voice and data for commercial offices, including CAT 5e, CAT 6, and 10-gigabit CAT 6 cables. Its iGLO-ITS fiber optic products are based on the MTP style of connectorization known as Snap 'N Glo. The systems are made at the company's seven manufacturing plants in the United States, Canada, and Asia and are sold under the name of iCAT-ITS and iGLO-ITS.

Installation Wizards

There are four main silos of business for ASD. The first is the manufacturing and installation of the company's cabling products. Secondly, ASD designs and installs security and access control systems. "We design and install sophisticated IP-based access control and surveillance systems," says Eskew.

The third silo is its Voice over IP installations. ASD is a reseller of Avaya and ShoreTel VoIP products. The final service

we have the expertise to perform those kinds of projects," Eskew says. "It could be almost anything that requires physical onsite installation, whether that's software, hardware, or both." That includes AV systems, such as satellite and conference rooms or paging systems; wireless installations; digital signage; and other needed systems.

In any of these installations, ASD often includes agreements for moves, adds, or changes, including ongoing maintenance contracts and systems-down service capabilities.

ASD performs these installations nationwide and in Canada. The company's overseas business is limited to a few projects each year for North American customers who have locations in Europe.

ASD delivers these services by maintaining a network of about 700 AASDIs

training new people. But Eskew characterizes those challenges—as well as current economic conditions—as manageable.

In the competition for business, though, the company's biggest challenge is in the bidding process. The majority of ASD's competitors are local contractors, and Eskew explains that the company often has to explain why its bid is better than that of a competing bidder, even if it's slightly higher. "This is when the issue of scope of work comes up," Eskew says. "These contractors will give them a number that doesn't meet the scope of work, so the price looks really good, and sometimes clients decide based totally on price, only to find out they spent more because they hired someone they didn't know. Soliciting three bids and comparing the prices doesn't mean that one is the best price and value; it just means one



(Authorized ASD Installers, pronounced "as-dee"). These are local installers who have been certified in all the services ASD promises its customers: network environments, structured cabling system standards, networking standards for wired and wireless systems, surveillance and access control, and building automation systems. Sales and project management of these services are handled by ASD associates in the Roswell and Hickory locations, who call on corporate end users to offer ASD's expertise for technology installations and project management.

ASD sells a lot of structured cabling, telephone systems, and access control

will be the lowest. We spend a lot of time educating customers about that."

Mostly, ASD competes with local contractors, although some national companies are also competitors in some markets. But Eskew notes that those same national competitors can also be customers of ASD's in some circumstances.

Part of ASD's work in educating customers includes explaining the value of the products it sells or resells, and that's not always easy to convey, especially when decisions about the project are not being made at a high enough level. "For example, CAT 5 and 6 cables are often requested by brand name, and some customers don't understand that all category cables have to meet the same standards," Eskew says. "We're doing a couple of site surveys for a customer, and they requested a certain brand of cable. Well, ours has two and a half times the bandwidth of that brand. They're making a bad choice, because our cable is going to do more and costs 35% less because we sell direct rather than reselling someone else's cable. But they want to use brand X, and it takes some doing to get across why that's not a good decision."

Next Up

Eskew says that the company's biggest focus in the days to come is going to be on growing its structured cabling business, particularly the manufacturing side. ASD's ability to sell its own cable and components, rather than reselling someone else's, is a big differentiator for the company, he explains, and so the compa-

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- ASD specializes in cabling solutions and installation of VoIP, security, and a variety of other systems.
- The company has an extensive network of Authorized ASD Installers and resellers. These are local installers who have been certified in all the services ASD promises its customers: network environments, structured cabling system standards, networking standards for wired and wireless systems, surveillance and access control, and building automation systems.
- The company's biggest focus in the future will be on growing its structured cabling business, particularly the manufacturing side.
- "For us, it's important to find good people who understand the importance of taking care of customers—not just finding new business, but taking care of the business you already have," says Bob Eskew, ASD's president.

ny will be bringing out new products in that sector, including ones that are suitable for data centers.

For example, the company just released Snap 'N Glo, a factory-assembled plug-and-play fiber-optic system. "It's all pre-assembled, and the installation times are quick because it's all plug and play; you just snap it together, and it works," Eskew says. "The normal way is to pull the cable and have lengthy times to terminate all the cables at the end of the fiber. With Snap 'N Glo, we can cut out 75% of the installation time."

Eskew emphasizes the importance of people as well as technology in a business like ASD's. "When you look at the billions companies spend on IT, it still comes down to one-on-one relationships and how well you serve customers," Eskew explains. "So for us, it's important to find good people who understand the importance of taking care of customers—not just finding new business, but taking care of the business you already have." ■

A Look At The Snap 'N Glo

Automated Systems Design offers the Snap 'N Glo, a new member of the family of products that the company manufactures under the iGLO-ITS name. Snap 'N Glo allows users to quickly install fiber optic backbones using a fiber assembly that includes a factory-installed pulling eye. Cassettes are available in LC, SC, MT-RJ, and ST. They are mounted in wall- or rack-mounted brackets and can connect via an MTP connector to the user's preferred connector. Color-coded housings tell the user whether the connection is single-mode or multimode, and the housings are removable so that pin clamps can be changed easily, ferrules cleaned, or connectors repolished.

“Soliciting three bids and comparing the prices doesn’t mean that one is the best price and value; it just means one will be the lowest. We spend a lot of time educating customers about that.”

- ASD's Bob Eskew

is more broad: In addition to designing and installing technology for customers, the company also provides project management for national clients that seek a single point of contact.

"We do technology rollouts of all sizes and types; if a customer needs new technology installed in 500 offices, for example,

systems. The company's largest customers are in the insurance, healthcare, and for-profit education sectors.

Competing Nationally

ASD faces the same difficulties that many companies do—the challenges of growth, of taking on new business, of

FEATURED COMPANY

Keep Cool Air Where It Should Be

Polargy Focuses Its Attention On Airflow Containment Solutions

by Robyn Weisman

FOUNDED IN 2008, Sunnyvale, Calif.,-based Polargy is a new company with some very clear goals. “We want to establish Polargy as the de facto brand for airflow containment,” says Polargy founder and CEO Cary Frame. The focus on airflow management and containment at Polargy (www.polargy.com)

over the last three or four years [and thought] the market is moving in this direction rather solidly,” Frame says. “I decided to come out with a company just focused on containment.”

More Than Being Green

Although Polargy’s offerings center around controlling server room tempera-

air problems, and you can defer capital expenditures so you can get more life out of the data center essentially and get cooling costs under control.” Frame does not think the market is paying to be green. “It’s a nice feather in the cap, but people are paying to save energy,” says Frame. “Over time, everything is going to become green, so to speak. The kids are learning it in school. We just have to think about energy much more consciously than we have in the past.”

Three-Dimensional Airflow

According to Frame, airflow consists of three dimensions: the room, the rack, and the floor. “A lot of people who talk about containment today think of the room—where am I going to put partitions or isolation barriers. But the reality is you have to button up the floor, button up the racks, and then the room,” Frame says.

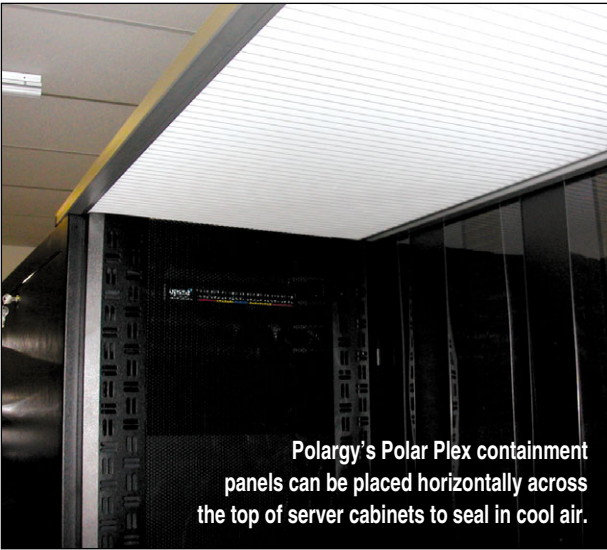
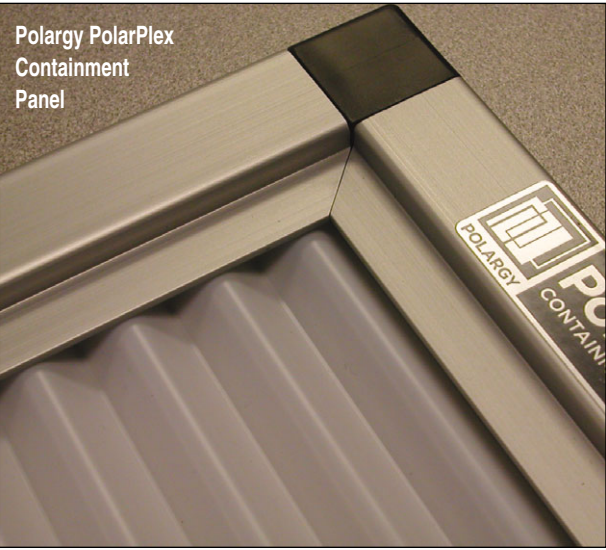
Like many of its competitors, Polargy performs energy audits for potential customers. However, Polargy’s assessment addresses these three areas. Although data centers may have blanking products in their racks or use strip brushes to seal their doors, Frame finds that most customers have yet to diligently seal the racks and floors.

Monitor, Contain & Control

When it comes time to deploy an airflow management solution, Polargy breaks the process down in three steps: monitor, contain, and control. The monitoring step provides the data center with a baseline of such things as temperature and pressure points from which to improve. In addition, monitoring offers a foundation for a power utility rebate. “Many of the power companies are offering incentives or rebates for doing airflow improvement projects, but you must establish baselines before and then do subsequent baseline after,” says Frame. Containment architecture can vary depending on the server room, although it usually is some combination of curtains and panels. Although cooling and airflow management are primary drivers during this step, fire safety is an important issue, as well, explains Frame. “There are no established [fire safety] standards for doing containment in data centers, and we have a variety of options at our disposal to meet each local jurisdiction’s interpretation,” he says. The control step translates into calculating the airflow within each subzone in a room. Typically people calculate the airflow at the room level, but as you create [subzones], each one needs to be balanced, says Frame. After this has been established,

Polargy
(888) 816-8338
www.polargy.com

- Polargy specializes in airflow containment solutions designed to reduce energy costs and increase efficiency.
- The company offers containment panels and curtains, server racks, and foam seals.
- “Our solutions not only save energy, they improve the reliability and performance of your equipment,” says Cary Frame, founder and CEO of Polargy.



.com) developed out of Frame’s experience working at Fortune 500 companies. In itself, airflow containment is not a new concept, says Frame. About four years ago, while employed at Chevron, he noticed the company’s use of homegrown containment solutions. A year later, while working at Wells Fargo, he saw similar actions taken to improve the data center’s overall airflow management. Then Frame attended seminars at which a few companies presented their forays into airflow management. “I took these things


tures and saving on energy costs, it does not view itself as a “green” company. “I started Polargy because I saw this need for people to get their data center cooling under control,” says Frame. “I just saw it as a solution that the market needs.” In other words, even if the specter of global warming weren’t an issue, Polargy’s airflow solutions still would be meaningful to data centers. “Our solutions not only save energy, they improve the reliability and performance of your equipment,” Frame says. “You don’t have all those hot

you then calculate how many CRAC units you will turn off and then change the alarm thresholds of the remaining ones. “We’re doing projects [where] we’ll get the cold air alarm or hot air alarm, because as you go to containment, the cold zone gets colder, and the hot zone gets hotter. If you don’t plan for that ahead of time, you get a lot of false alarms,” Frame says. “If you do containment alone without making subsequent adjustments to the cooling system, you really are not going to get all the gains you could get.”

Airflow Containment Solutions

Polargy offers workable, cost-effective solutions for handling every dimension of airflow containment. Its PolarPlex family of airflow containment curtains and panels works in a variety of configurations to control the means by which hot and cold air travels within a space. The panels typically are deployed horizontally to cap a hot aisle or cold aisle or in large-scale data centers in which the ceilings may be too high to deploy curtains. In smaller data centers, curtains are hung from the ceiling to block out subzones. Both Polarplex panels and curtains meet emerging FM (Factory Mutual) Global standards, which are more stringent than fire safety requirements in most local jurisdictions.

Polargy’s PolarRack XG line of rackmount servers incorporate several innovations that improve airflow containment and usability. Unlike many racks on the market today, PolarRacks are sealed so that hot air cannot enter cold zones and cold air cannot escape through their sides. The PolarRack comes with a clear top panel that allows more natural light to reach the rear of the cabinet, saving money by cutting down on additional lighting. In addition, the PolarRack has troughs in the rear, putting power and cabling out of the way of server fan exhaust and providing the user with more room with which to work, Frame says.

Most recently, Polargy has launched an inexpensive and easy-to-use alternative to brush grommets. PolarDAM airdam foam consists of 2-foot by 2-foot sheets of fire-safe foam, prescored in one-inch increments. “You can take these sheets into the data center and rip it to the size you need for each hole. It seals up your floor at a fraction of what brush grommets cost,” Frame says. 

Polargy Offerings	
Product	Description
PolarPlex Containment Curtains	These high-grade transparent vinyl curtains create barriers between hot and cold aisles to minimize hot spots and over-cooled zones, provide standards-based fire safety, and are easy to install via a hook bead mounting system.
PolarPlex Containment Panels	These aluminum-framed, translucent, and fire-safe panels can be deployed horizontally across a server aisle to contain tight cold zones or vertically for situations where ceiling height prevents users from dropping curtains.
PolarRack XG Server Racks	These large server racks, which come in 42U and 45U models, offer such innovations as a clear top panel that reduces lighting needs, a perforated door that lets air pass, a bezel and rail configuration that keeps hot exhaust from recirculating through the rack, and recessed power and cable troughs in the rear that provide more room to work and keep power and cabling away from airflow exhaust.
PolarDAM Flexible & Fire Safe Air Dam Foam	This fire-safe foam seals holes in the server floor for about one-tenth the price of a surface-mount brush grommet; is easier to install; and can be used in a variety of floor cutouts, such as around pipes, where brush grommets won't work.


Processor Advertiser Directory

The following pages provided a brief snapshot of Processor advertisers and the products they offer. Ads are sorted by category, making it easy for you to find advertisers offering the products and services you need.

For more detailed information on these advertisers and the products they offer, look for their ads inside this issue.

To list your company and products, call (800) 247-4880.

PHYSICAL INFRASTRUCTURE



AVTECH Software, founded in 1988, is focused on making the monitoring and management of systems, servers, networks, and data center environments easier. AVTECH provides powerful, easy-to-use software and hardware that saves organizations time and money while improving operational efficiency and preparedness. AVTECH products use advanced alerting technologies to communicate critical status information and can perform automatic corrective actions.

Products Sold:

A full range of products that monitor the IT and facilities environment, including temperature, humidity, power, flood, room entry, and UPS

(888) 220-6700 | www.AVTECH.com

PHYSICAL INFRASTRUCTURE




BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

Products Sold:

- Power control, distribution, management, and metering
- Power transfer switches
- Console management and remote site management

(800) 523-2702 | www.baytech.net

PHYSICAL INFRASTRUCTURE




Cyber Switching began pioneering power distribution technologies in 1994. Our PDUs are used to power cycle and manage power to blade servers, routers, SANs, and other data center equipment. Our intelligent PDUs can monitor current individually by outlet and also provide virtual circuit breaker protection on an individual outlet basis. **No other PDU on the market offers these unique features.**

Products Sold:

- Intelligent power management
- Value-added power management
- Metered power distribution
- Three-phase power distribution
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- Switches
- Patch Panels

(888) 311-6277 | www.cyberswitching.com

PHYSICAL INFRASTRUCTURE




Eaton has many global brands that provide customer-driven PowerChain Management™ solutions to serve the power system needs of the industrial, institutional, government, utility, commercial, residential, IT, and mission-critical OEM markets worldwide. For more than 40 years, Eaton has worked closely with customers to meet their requirements for innovative, end-to-end power protection and management solutions.

Products Sold:

- UPSs
- ePDUs, including Basic, Metered, Monitored, Advanced Monitored, Switched, and Automatic Transfer Switch

(877) 785-4994 | www.epdu.com

PHYSICAL INFRASTRUCTURE



At Hergo, we understand your technology requirements and the best way to incorporate that technology into your workspace. The Hergo product line combines a variety of interchangeable parts, most of which are standard components. All Hergo racks are made of heavy-duty steel and are powder coated, offering superior quality and durability, as well as better ultraviolet ray and corrosion resistance.

Products Sold:

- Cabinets and enclosures
- Server racks
- Computer carts
- Cable and power management systems

(888) 222-7270 | www.hergo.com | GSA Contract Number: GS-29F-0133G

PHYSICAL INFRASTRUCTURE



IT Watchdogs got its start when founder Gerry Cullen developed a product called Weather Goose in an apartment in Houston. Today, the company has seven different climate monitors and more than 70 different product numbers. At IT Watchdogs, we believe in providing customers with low-cost climate monitors that have the same or better features than competitors'. Plus, we offer fast, professional response to customers, with support handled by the same programmers and engineers that develop and maintain our products.

Products Sold:

A full line of environmental products, including climate monitors, sensors, and cameras

(512) 257-1462 | www.itwatchdogs.com

PHYSICAL INFRASTRUCTURE



Established in 2008, PDUsDirect.com is an online wholesaler providing a select line of PDUs for server and networked environments. PDUs Direct's basic, metered, and switched Rack PDUs provide local and remote power management, power monitoring, and environmental monitoring. We pride ourselves in offering industrial-grade quality products at the lowest prices, with the fastest shipping (most orders shipped within 24 hours) and simplest purchase process.

Products Sold:

A complete line of 20A PDUs, including metered, basic, and switched.

(888) 751-7387 | pdusdirect.com

PHYSICAL INFRASTRUCTURE



Rackmount Solutions' mission is to listen to the IT engineer's specific needs and deliver superb-quality, high-performance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money.

Products Sold:

- Wallmount and server racks and cabinets, including sound proof, air conditioned, and large cable bundle
- Desktop/tabletop portable racks
- Shockmount shipping cases
- Bulk cable

(866) 207-6631 | www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE




Server Technology is committed to the PDU market with the largest group of engineers dedicated to power distribution and other solutions within the equipment cabinet. Advancements in device power monitoring help data centers monitor and improve their efficiency, and continuous research and development is fueled by companies that look to Server Technology for their custom cabinet power solutions.

Products Sold:

A complete line of cabinet PDUs, including Per Outlet Power Sensing (POPS), Rack Mount Fail-Safe Transfer Switch, Console Port access with remote power management, Switched, Smart, Metered, Basic, and -48 VDC

(800) 835-1515 | www.servertech.com

PHYSICAL INFRASTRUCTURE




From the company's inception in 1996, Snake Tray's focus has been the development of superior products that help eliminate repetitive, labor-intensive installation steps. Snake Tray products are designed better than traditional cable management and power distribution products, allowing our products to deliver unsurpassed cost savings because they're easy to install. Added to this is our expertise in datacom and data center cabling, which aids our customers during project planning.

Products Sold:

- Cable management
- Power distribution
- Distribution boxes
- Airflow solutions

(800) 308-6788 | www.snaketray.com

PHYSICAL INFRASTRUCTURE



Boston, Mass.,-based Temperature@lert manufactures products designed to be as simple as possible to provide the most reliable temperature monitoring for your IT equipment. Temperature@lert has been growing at a steady, measured pace, which allows it to exceed customer expectations in terms of product quality and support, and its customer support staff is composed only of members of its product engineering team, ensuring superior support.

Products Sold:

USB and Wi-Fi versions of the Temperature@lert device, which monitors data center temperature, alerts you to problems, and takes corrective action as needed.

(866) 524-3540 | www.24sensor.com

PHYSICAL INFRASTRUCTURE



Founded in 2001, Upsite Technologies has established itself as a leader in the marketplace for high-availability data center solutions, concentrating on hot spots and energy-efficiency issues. Upsite founder Kenneth G. Brill recognized a need for products and solutions reaching far beyond standard engineering and consulting offerings. Upsite has developed a suite of products designed to increase the reliability and availability of data centers while reducing energy costs.

Products Sold:

A line of products designed to solve heat-density problems in data centers, including blanking panels, temperature strips, and raised floor grommets to seal cable openings.

(505) 982-7800 | www.upsite.com

NETWORKING & VPN



ASD's mission is to be the best nationwide provider of design, deployment, and project management services in the voice and data network integration industry. We offer turnkey, reliable, and cost-effective communications systems tailored to fit the client. Our goal is to be the single point of contact for services to end users, systems integrators, manufacturers, building owners, and others. Our commitment includes delivering projects on time and on budget and offering superior, customized design.

Products Sold:

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(800) CABLING (222-5464) | www.icat-its.com

NETWORKING & VPN



Companies rely on Barracuda products because they're easy to deploy and use, don't require IT expertise, and come with automatic updates. Barracuda does not charge per-user, per-port, or per-server licensing fees, making its products among the most affordable. As a customer, you'll be backed by Barracuda Central, an advanced 24/7 security operations center that works to monitor and block threats.

Products Sold:

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- Email archiving
- Firewalls and SSL VPN
- Data backup and disaster recovery
- Link and load balancing

(888) 268-4772 | www.barracuda.com

NETWORKING & VPN



Los Gatos, Calif.,-based Firetide supplies multiservice mesh networks for industrial and municipal applications. Firetide provides a secure, high-performance wireless mesh infrastructure and access solution for video surveillance, Internet access, public safety networks, and temporary networks wherever rapid deployment, mobility, and ease of installation are required.

Products Sold:

Mesh networking products for industrial, surveillance, Internet access, emergency services, and public safety applications.

(408) 399-7771 | www.firetide.com

STORAGE



Adaptec provides I/O solutions that protect, accelerate, optimize, and condition data. Adaptec products are used in IT environments ranging from on-demand cloud computing to traditional enterprise data centers. The company's products enable data center managers, channel partners, and OEMs to deploy storage solutions to meet their customers' evolving IT requirements. More information is available at www.adaptec.com, on its blog at storageadvisors.adaptec.com, and at adaptec.com/facebook and twitter.com/Adaptec_Inc.

Products Sold:

Data storage I/O products, including ASICs, HBAs, SATA/SAS and SCSI RAID controllers, and software for IP SANs

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STORAGE



Established in 1983, CMS Products is a leading innovator in data backup, encryption, and security technology. CMS Products has received global recognition for its work in developing leading-edge, easy-to-use products that revolutionize the notebook and desktop data backup/restore and storage industry.

Products Sold:

- Backup and restore disaster recovery software and systems, including laptop, desktop, and secure versions
- Laptop hard drive upgrades
- Data security products, including encryption software, encrypted portable backup, and encrypted flash drives

(800) 327-5773 | www.cmsproducts.com

STORAGE



Talend provides open-source data integration software for enterprises of all sizes. Companies all over the world use Talend to optimize data integration; extraction, transformation, and loading; and data quality costs. Talend is backed by investors such as Balderton Capital, AGF Private Equity, and Galileo Partners and has offices in the United States, UK, France, Germany, and Asia.

Products Sold:

Data integration software and data integration services such as support and training

(650) 396 7738 | www.talend.com

CLIENTS



Maryland-based dtSearch started research and development in text retrieval in 1988. The company is known for speedy adoption of new programming standards, OSes, and file types. Plus, it has a flexible licensing model. Typical corporate use of dtSearch includes general information retrieval, Internet and intranet site searching, and email archiving and email filtering.

Products Sold:

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- Desktop With Spider
- Web With Spider
- Network With Spider
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Since 1987, Compurex Systems has sought to be a one-stop source of technology, including systems and storage, network applications and peripherals, and service and repair. Compurex Systems prides itself on offering competitive pricing, rapid delivery, quality product, and attention to detail and customer service. At Compurex Systems, we look to make long-lasting relationships with our customers and suppliers. Our customers return because they know they can trust us.

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DMD Systems Recovery offers new and refurbished computer equipment and services. We provide exceptional value and quality because of our experience in procuring high-quality equipment. DMD also provides cost-effective and environmentally safe computer and communications equipment disposal services. Our dedicated staff can handle all aspects of equipment disposal, from logistics to reporting.

Products & Services:

Equipment disposal services, along with a complete line of used and refurbished equipment, including computers, networking, laptops, monitors, point of sale, servers, storage, and telecommunications.

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IGS is an independent manufacturer and source of supply, service, and depot repair of obsolete Digital Equipment Corp. parts, products, and systems. We maintain an extensive inventory of DEC parts and equipment; some date from the 1960s. We refurbish and service these parts, adding current technology when applicable. We provide Advance Replacement Service within 24 hours if we have the item in stock and, with 75,000 stock items, chances are we will.

Products Sold:

Digital Equipment Corp. parts, products, and systems, including memory, storage, processors, display and video, printers, and cables, for repair, lease, or rental

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- Notifies you via email of changes in room temperature
- Precalibrated sensor
- Includes free software upgrades for one year
- Logs temperature readings to text and XML
- XML data can be easily integrated into custom applications
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- Free shipping

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ENCLOSURES & RACKS

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This is a small snapshot of the 7,000 SKUs in stock LARGEST cable inventory worldwide:

DISK & TAPE	
Part Number	Price
RD53-DA	\$895.00
RD54-AA	\$995.00
RZ29L-AA/VA	\$175.00
RZ28-VA	\$145.00
RZ1DD-SW/VW	\$60.00
RZ28-VA	\$295.00
TLZ09-VA	\$295.00
TLZ10-VA	\$385.00
TZ87/TZ88/TZ89	Starting at \$125
TSZ08-AA	\$1,995.00
All VAX Parts & Spares 70% Off Compaq Preferred VAX Reseller	

DNPG Network	
DEZ8R-P	\$1,290.00
DEFHM-MM	\$5,800.00
DEFEA-FB	\$1,275.00
DSGGD-BA	\$1,500.00
DZRVW	Starting at \$500

All Compaq HP Blades	
Start at \$595.00	
DS10	\$675.00
DS20	Starting at \$1175
GS80	\$2,900
GS160	Starting at \$3,900
GS320	Starting at \$5,900
RL01/RL02	Call
RA60-P	\$475
RA81 H.D.A	\$775
RA82 H.D.A	\$775.00
2T-48VDC	\$3,400.00
VAX Systems & Options—Call	

Alphas	Starting At
ES40	\$1,295.00
ES45	\$3,195.00
ES47	\$4,195.00

Proliant Servers / HP Blades	
AJ 742A	\$4,175.00
AJ 753A	\$5,175.00

Disks	
AJ 736A	\$535.00
AJ 737A	\$825.00
AJ 738A	\$385.00
AJ 740A	\$675.00

Memory	
413015-B21	\$1,290.00
397413-B21	\$375.00

HBA Fibre Channel	
AE311A	\$815.00
A8003A	\$765.00
LPE12000	\$840.00

Printers	
LA600/LN05/LN07/LA400/LN01/02/LN40	
Printer Repair 25% Off	



Metered Outlet - MRP

Additional Unique Features



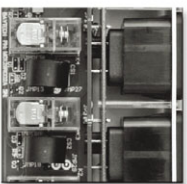
All Circuit Breakers Monitored
Most metered power solutions only monitor input power. BayTech monitors all circuit breakers and reports via SNMP when thresholds are met.



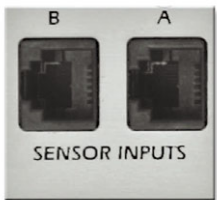
Outlet Metering with Efficiency
Monitor individual outlets and receive current, watts, and volt-amps. Continuously monitoring equipment for efficiency with power factor.



Locking C13 Receptacle Optional
Reliable integrated locking clips assure power cord retention. Unique to the industry and does away with nuisance wire clips.



Reliable PCB Power Distribution
ISD's (Insulation Displacement) connectors are faulty and unreliable! All BayTech power solutions use reliable PCB power distribution.



Integrated Sensor Inputs
Eliminate the need for extra environmental monitoring devices. All BayTech power solutions offer two ports for external temperature and humidity probes.

Going Green!!!

Power Factor is Real and now it's Real-Time with the MRP Power Solution

Reach operational efficiency and conform to new Green Energy standards with the MRP outlet monitoring solutions.

BayTech's metered outlet modules report Amps, Voltage, VA, Watts, power factor and efficiency per receptacle.

Through our secure SNMP engine thresholds can be set to help identify equipment that is running inefficient.

Standard Features

- Single Phase and Three Phase
- 20,30,50,60 Amp Support
- On, Off, Reboot option
- HTTPS, SSH, SSL Access
- Radius, TACACS Authentication
- Tool less Mounting

Unique Features

- Modular Design
- All Receptacles Monitored
- Power Factor per Outlet
- kW Hour Meter per Outlet
- Current, Voltage and VA and Watts
- Reliable PCB Power Distribution
- Fail Functional Design

Control and Circuit Metering-MRP

Unique Features



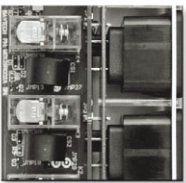
All Circuit Breakers Monitored
Most metered power solutions only monitor input power. BayTech monitors all circuit breakers and reports via SNMP when thresholds are met.



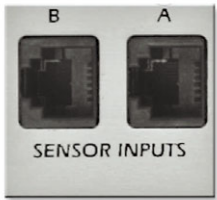
Optional Outlet Metering with Efficiency
Monitor individual outlets and receive current, watts, and volt-amps. Continuously monitoring equipment for efficiency with power factor.



High Retention C13 Receptacle
Reliable integrated locking clips assure power cord retention. Unique to the industry and does away with nuisance wire clips.



Reliable PCB Power Distribution
ISD's (Insulation Displacement) connectors are faulty and unreliable! All BayTech power solutions use reliable PCB power distribution.



Integrated Sensor Inputs
Eliminate the need for extra environmental monitoring devices. All BayTech power solutions offer two ports for external temperature and humidity probes.

Build Custom Power Solutions with Standard Modular Product

BayTech's MRP Modular Rack Power system provides reliable power distribution with maximum flexibility for receptacle selection and power input.

BayTech offers three classes of the MRP system. Switched and monitored, simply monitored and individual receptacle monitoring.

User friendly interface for controlling power to receptacles, monitoring Current, Voltage, Watts, Temperature, Humidity, and KW Hour Meter.

Standard Features

- High and Low Density Models
- 120/208/AC Single Phase
- 208/400VAC Three Phase
- 20,30,50,60 Amp Support
- On/Off Reboot Control
- HTTPS, SSH, SSL Access
- Radius, TACACS Authentication
- Tool less Mounting

Unique Features

- Modular Design
- All Circuit Breakers Monitored
- KW Hour Meter
- Current, Voltage and Watt Meters
- Integrated Locking C13 Receptacle (Optional)
- Reliable PCB Power Distribution